. . . creating a better quality of life

Fiscal Year 2016-2017

Draft

Water and Sewer Fund and Stormwater Fund Operating Budgets

Water and Sewer Board

John Sant Amour, Jr., Chairman
Ron Washington, Council Member
Clay Beach
Dr. Alphonse Carter, Jr.
Ron Crabtree
Kathy Moore Nobles
Sandra Trail

City Council

Shane McFarland, Mayor
Doug Young, Vice Mayor
Madelyn Scales Harris
Rick LaLance
Eddie Smotherman
Ron Washington
Bill Shacklett

Water and Sewer Staff

Darren Gore, *Director*

Doug Swann, *Assistant Director of Finance and Administration*

Valerie Smith, *Assistant Director of Engineering and Compliance*

Steve Tate, *Effective Utility Management Coordinator*

Terry Taylor, *Operations Manager*

Alan Cranford, *Water Treatment Plant Manager*

John Strickland, *Waste Water Treatment Plant Manager*

Sharon Seibert, *Customer Service Manager*

City Administration

Rob Lyons, *City Manager*

Jim Crumley, *Assistant City Manager*

Jennifer Moody, *Assistant City Manager*

Melissa Wright, *City Recorder*

Erin Tucker, *Asst. City Recorder / Chief Accountant*

About the Cover - "Bridging the Gap"

Seeking and gaining sustainability while maintaining affordability is the goal for the MWSD in 2016-17 and beyond. With respect to the City's Murfreesboro 2035 planning initiative for the next 20 years, MWSD plays a vital role. Our services to growing Murfreesboro must be sustained but also kept affordable for the ratepayer. Gaining sustainability in water and sewer services in Murfreesboro in the near term and well into the future relies on a strategic approach. As we embark on long term planning for Murfreesboro, it is the express intention of MWSD to focus our efforts on being a seed of change within the public water/wastewater utility industry.

In order to become a "Utility of the Future" (UOTF), MWSD must **"Bridge the Gap"** we are currently encountering with limitations on our water resources. Without astute strategic planning and effective and efficient tactical maneuvering to steward the water resources within the Stones River watershed, growth in Rutherford County and Murfreesboro could be hindered. Specific solutions that will move MWSD into that "Utility of the Future" are:

- Continued development of a Water Resource Integration Plan coordinated with Murfreesboro's 2035 comprehensive plan.
- Advancing MWSD's 2016 Annual Review of Trends and Strategic Planning Issues
- Continuing to measure those key performance indicators that provide insight and guidance into becoming a more efficient and Lean organization.
- Developing Agricultural Partnerships for Land Application of Effluent Spray Irrigation (e.g., Williamson Farm, MTSU Farm)
- Developing Industrial Partnerships for Financial, Environmental and Social Gains (e.g., General Mills & Indian Hills Collaboration)
- Facilitating Development Partnerships that may benefit from unconventional sewage treatment techniques (e.g., Dill/Rushing/Lyons Property).
- Collaborating water management strategies with the Consolidated Utility District to identify challenges and strategies to providing water services within the Urban Growth Boundary.

As a Utility of the Future, MWSD must be "change-ready" and "rebrand" both our role and the products we produce. We are *One Community* that must make full use of our *One Water*. MWSD looks forward to the challenges facing our community as they are seen as opportunities to lead and advance the culture into a *Right Water for Right Use* mentality.

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BUDGET MESSAGE

May 9, 2016

Honorable Mayor and Members of the City Council and Water and Sewer Board,

RE: Draft 2016-17 (FY17) Budget

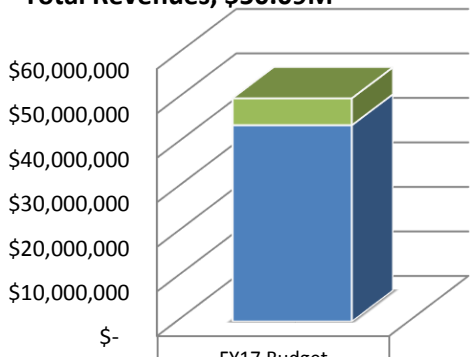
I submit to you the 2016-2017 (FY17) Draft Budget for review and consideration. It is presented in the same format that the City Budget has been prepared. As the City budget is amended so will the Water and Sewer and Stormwater budgets.

The multiple accomplishments of the Murfreesboro Water and Sewer Department (MWSD) for FY16 are detailed on page 22 of this document. The Department's highlighted or most significant accomplishments for FY16 are associated with completing the construction on the Southwest Regional Pump Station, Force Main and Headworks facility at the Sinking Creek treatment plant, leveraging the Department's Water/Wastewater Mechanical/Electrical Services Contract to facilitate a "work order" based system to aid the plants with larger projects, and starting the Advanced Metering Infrastructure (AMI) implementation; anticipated to complete over one-third of the meter installations in FY16.

The Department's FY17 goals are detailed on page 24. The most significant ongoing projects by the Department are the Advanced Metering Infrastructure (AMI) implementation as well as the construction of the Sinking Creek treatment plant to expand from a rated 16 million gallons per day (MGD) to 24 MGD. MWSD is also preparing a Water Resources Integration Plan (WRIP) that complements the City's Comprehensive Plan; ensuring proper water resources and infrastructure are in place for supporting the vision for growth in Murfreesboro's Urban Growth Boundary (UGB).

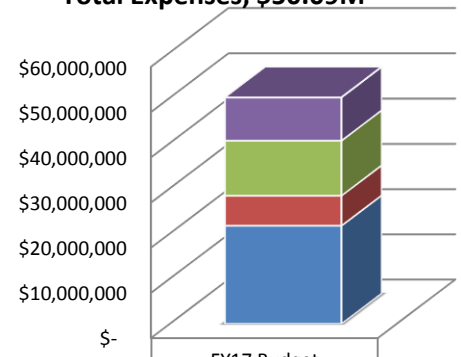
The water and sewer FY17 draft budget is balanced and is not expected to deviate significantly from the overall revenue and expense total of $50,089,500. This amount is a $6.9M over the FY16 budget and $540,000 under FY16 projected revenues.

Total Revenues, $50.09M



	FY17 Budget
TAP REVENUE	$6,000,000
INTEREST INCOME OTHER INVEST.	$45,000
TOTAL REVENUES	$44,044,500

Total Expenses, $50.09M

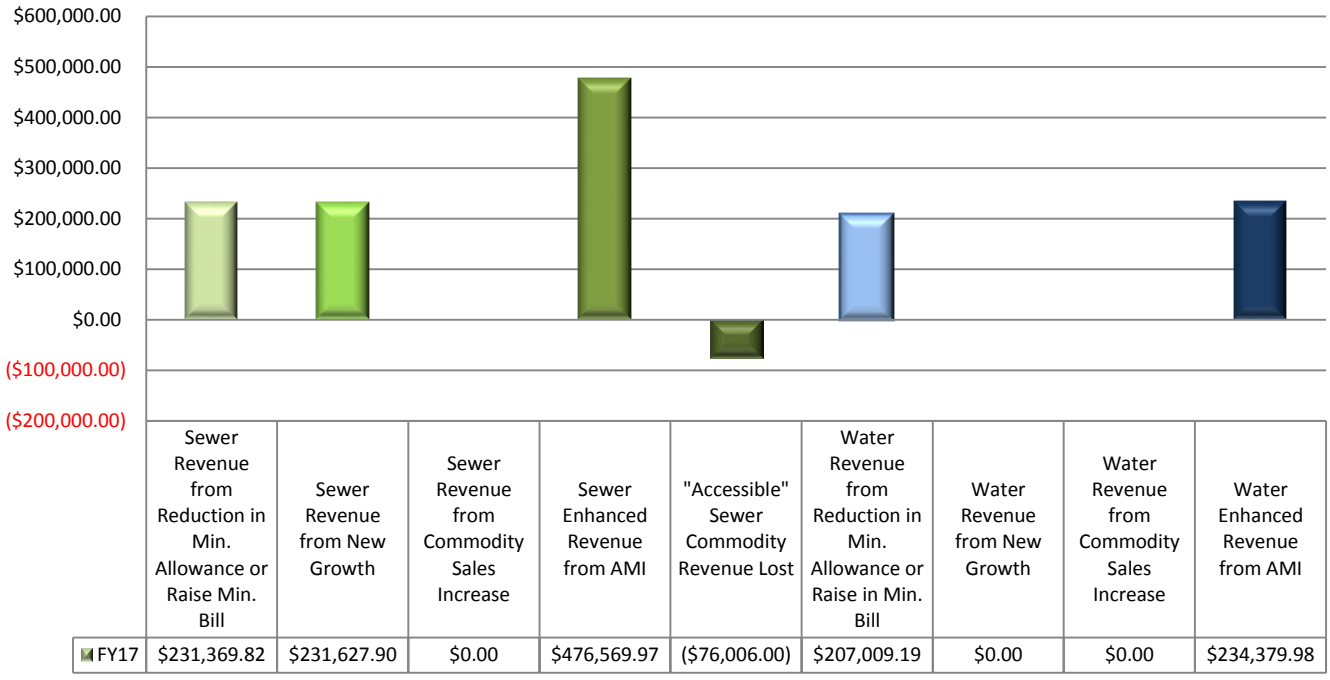


	FY17 Budget
TRANSFERS TO RESERVES	$9,546,938
DEBT SERVICE	$12,159,242
CAPITAL EXPENDITURES	$6,653,565
TOTAL OPERATING EXPENDITURES	$21,729,755

The $6.9M increase in budget can be attributed to the following:

1) An adjustment based on FY16 rate revenue to accommodate an approximate $3.5M exceedance in projected revenue received through water and sewer rates. The FY16 rate design and growth projections were estimated to yield $1.15M in increased revenue; the fact that this estimate tripled can only be attributed to more growth than expected. General Mills is using approximately 200,000-300,000 gallons per day more in calendar year 2016 versus calendar year 2015. The tap revenue that was collected over budget in FY16 supports the fact that residential and commercial growth is occurring above expectations.
2) The rate adjustments anticipated for FY17 yield approximately $1.3M in increased revenue; the sources of that increased revenue are broken down in the following chart:

Chart 1: FY17 Revenue Increase by Source w/ Anticipated Rate Design



	Sewer Revenue from Reduction in Min. Allowance or Raise Min. Bill	Sewer Revenue from New Growth	Sewer Revenue from Commodity Sales Increase	Sewer Enhanced Revenue from AMI	"Accessible" Sewer Commodity Revenue Lost	Water Revenue from Reduction in Min. Allowance or Raise in Min. Bill	Water Revenue from New Growth	Water Revenue from Commodity Sales Increase	Water Enhanced Revenue from AMI
FY17	$231,369.82	$231,627.90	$0.00	$476,569.97	($76,006.00)	$207,009.19	$0.00	$0.00	$234,379.98

3) Staff has increased tap revenue associated with new growth by $1.5M. Tap revenue is simply being adjusted above what was budgeted for FY16. Tap revenue is a direct corollary to the level of development that occurs within MWSD's service area. Substantially all tap revenue is expensed to the Department's working capital reserves to fund future capacity projects or major repair and replacement projects.

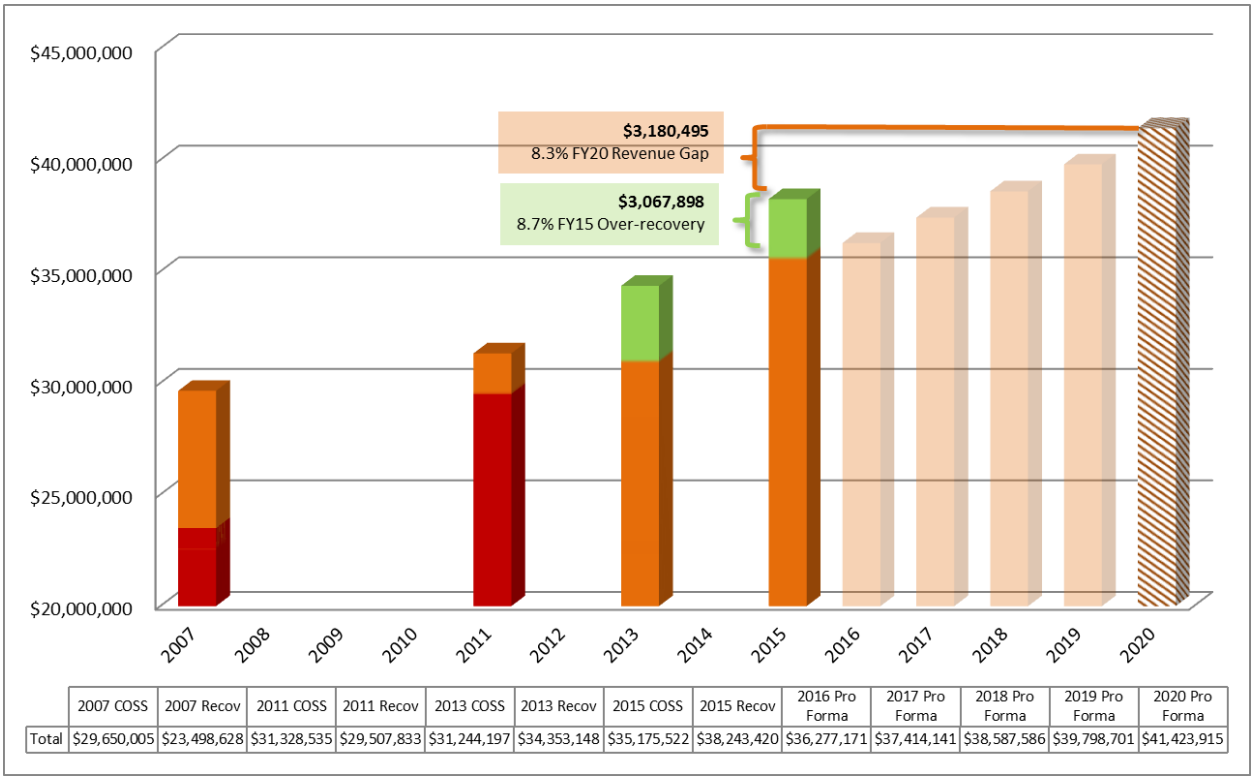
$1,486,438 of sinking funds are being earmarked to assign the excess revenue for future construction or repair and replacement. The sinking funds identified below have been assigned rate revenue since FY15. The total FY17 earmarked amounts and FY15-16 "banked" amounts are as tabulated below:

	FY17 Budget	FY15-16 Budget
1. Water Plant Membrane Replace (5-yrs for $2.0M)	$400,000	$800,000
2. Lift Station Replacement (5-yrs for $2.5M)	$286,438	$625,000
3. New Sludge Holding Building (5-yrs for $2.5M)	$300,000	$600,000
4. NE Regional P.S. & FM (10-yrs for $10.0M)	$500,000	$1,000,000

The sinking funds will be sustained until such time that the entire anticipated debt service hits in the first quarter of 2018 and potentially eliminates the opportunity to continue supporting sinking funds for cash funded projects. The use of sinking funds reduces the need to incur debt thereby alleviating the need for future rate increases.

Based on the FY15 Cost of Service Study (COSS) and FY20 Pro Forma developed by Jackson Thornton Financial Consultants, the following chart identifies the revenue deficit projected for the water and sewer enterprise funds as it relates to the over-recovery that was experienced in FY15.

Chart 2: Historical COS Studies and FY20 Pro Forma Revenue Requirements



	2007 COSS	2007 Recov	2011 COSS	2011 Recov	2013 COSS	2013 Recov	2015 COSS	2015 Recov	2016 Pro Forma	2017 Pro Forma	2018 Pro Forma	2019 Pro Forma	2020 Pro Forma
Total	$29,650,005	$23,498,628	$31,328,535	$29,507,833	$31,244,197	$34,353,148	$35,175,522	$38,243,420	$36,277,171	$37,414,141	$38,587,586	$39,798,701	$41,423,915

Table 1 itemizes the projects that will ultimately equal an approximate annual debt service of $3.4M million dollars. Approximately $1.4M of that annual debt service payment is built into the Department's FY17 budget; based on the completion of the Southwest regional pumping station, force main, and Sinking Creek Headworks projects.

Table 1: Water and Sewer Department Debt Funded CIP (FY14-18)

Project	Funding Source	Total Estimated Project Cost	Principal Forgiveness	Total Estimated Loan
Southwest Regional Pump Station	SRF	$8.6 M	$2.1M	**$6.5 M**
Fournier Presses and related equipment	SRF	$1.4 M	$400 k	**$1.0**
Southwest Regional Force Main	SRF	$8.9 M	$400k	**$8.5M**
SCWWTP Headworks	SRF	$9.1 M	$0	**$9.1 M**
SCWWTP Plant Expansion	SRF	$34.0M	$0	**$34.0M**
TOTAL		**$61.9M**	**$2.9M**	**$59.0M**

A rate structure change is recommended for FY17. Since July 2008, a rate strategy has been implemented to reduce the consumption allowance for a minimum bill over multiple years. In FY14, the minimum monthly allowance for 5/8 inch meters was reduced to a zero minimum allowance per month. In FY16, customers with a 5/8 inch meter (primarily residential) were increased by $0.50 on the sanitary sewer minimum monthly bill. Approximately 96% of MWSD's customers have 5/8" meters. In FY17, staff is recommending no rate increase for customers with 5/8 inch meters. With no rate increase, the Department maintains AWWA's affordability index, or 4% of a very low income earner as defined by the Department of Housing and Urban Development.

The proposed FY17 rate design also reduces the minimum monthly allowance for all meter sizes one (1") inch and greater by fifty (50%) percent. The minimum monthly monetary charges for all meter sizes remain the same. Table 2 provides the average monthly dollar increase for each size meter one (1") inch and greater.

TABLE 2: Estimated FY16-20 Revenue Generated based on Average Monthly Bills by Meter Size

Fiscal Year	Estimated ↑ Revenue	Monthly Rate Increase for 5/8" Residential	Avg Monthly Increase for 1" & 1 1/2" Meters	Avg Monthly Increase for 2" & 3" Meters	Avg Monthly Increase for 4" & 6" Meters
July 1, 2015 (FY16)	$1,153,676	$0.50	$6.39	$29.07	$184.78
July 1, 2016 (FY17)	**$1,304,951**	**$0.00**	**$6.39**	**$29.07**	**$184.78**
July 1, 2017 (FY18)	$1,498,227	$0.00	$6.39	$29.07	$184.78
July 1, 2018 (FY19)	$159,368	$0.00	$0.00	$0.00	$0.00
July 1, 2019 (FY20)	$159,368	$0.00	$0.00	$0.00	$0.00
5-yr Total	**$4,275,589**	**5-yr Pro Forma Requirement**		**$3,180,495**	

The water rate is recommended to remain at $2.74 per 100 cubic feet. The Sewer Service Fee is recommended to remain at $3.34 per 100 cubic feet and the Sewer Operation and Maintenance Fee is recommended to remain at 90 cents per 100 cubic feet. The average monthly bill for an MWSD customer that uses 5,200 gallons per month for water and 4,800 gallons per month of sewer will remain the same, or $66.70 per month.

There are no increases recommended to the water and sewer connection fees. Based on findings in the Cost of Service Study by Jackson Thornton Utilities in 2007, water and sewer connection fees were

scheduled to increase annually until the water connection fee reached $1,700 and the sewer connection fee $3,300. The Study identifies connection fees that can be justified based on utility assets. However, when setting these fees the regional market and economy are taken into account. These increases are recommended to be suspended and considered again next year.

The FY17 total operating expenses, including benefits and payroll, decreased $(468,102), or -2.3% over the FY16 budgeted amount.

The FY16 budget for All Labor and Related Expenses was $11,796,577, which included Payroll, Benefits and workers' compensation insurance expenses. With the following personnel requests, the FY17 budget is expected to increase by 0.87% or $102,895. There are a total of 164 full time and five (5) part time positions budgeted for FY17. Included in the full time positions are eight (8) positions in the stormwater department. There are three (3) new positions requested for the FY17 personnel budget:

1. Administration/Finance – One (1) new position; an Accounting Specialist for succession planning purposes.
2. Engineering – One (1) part time Administrative Support Specialist position proposed as a full time. This position was full time prior to the recession occurring in 2009. When the recession occurred, this position was vacated and not filled. It was filled as part-time last year, and warrants a full time employee based on increased work volume.
3. Customer Service – One (1) full time Cashier reduced to a part-time position. With the decreased in office payments, the Department believes replacing a full time position will still provide for coverage during "peak" customer traffic and "fill in" for vacation and sick leave absences of the other two (2) full time Cashiers.
4. Wastewater Plant – A new Plant Operator position is being requested due to increased need as part of the 50% plant expansion, as well as moving towards two (2) operators per shift for safety purposes.

The rate funded capital budget is $6,653,565, which is an increase of $2,068,831 from the FY16 budget. MWSD's goal is a minimum of $5 million per year in rate-funded capital purchases. With increased projected revenues from FY16 factored into the FY17 budget, staff is investing more into the Department's sanitary sewer rehabilitation improvements as well as investing in some water plant improvements to cover the settling basins. Debt service expense has basically stayed flat as compared to FY16 budget.

The Stormwater Fund budget is independent of the Department budget. It is funded from revenue based on a user fee of $3.25 per single family equivalent. The fund will be in its eighth year in FY17. No change is recommended to the fee. The net revenue generated by the stormwater fee is budgeted at $2.85M with operation expenses budgeted at $1,721,536 and rate funded capital expenditures at $539,899. The rate funded stormwater capital expenditures include a street sweeper, dump truck and one (1) ton truck for the City's Street division. The anticipated excess funds above operating expenses and rate funded capital expenditures are $338,565. The stormwater fund has developed an extensive five (5) year Capital Improvements Plan, currently totaling $5,750,000 from FY17 through FY21. A five (5) year pro forma has been developed to demonstrate the banking of excess revenues to pay for these proposed capital improvements without incurring any debt. Financial policies for the stormwater enterprise fund were adopted by the Water and Sewer Board and City Council on May 21, 2013 and July 11, 2013, respectively.

The Water and Sewer Board reviewed and considered the preliminary FY 17 Draft Water and Sewer and Stormwater budgets at their April 26th meeting. They have made a formal recommendation to the City Council to adopt the FY17 Water and Sewer and Stormwater budget. The draft budgets may change as a result of Council deliberations.

Sincerely,

Darren W. Gore, PE
Director

Overview - Water and Sewer Department

Water service is provided through approximately 26,696 meter connections within the Murfreesboro Water and Sewer Department water service area (35.54 square miles), and sanitary sewer service is being provided to areas served in the Consolidated Utility District water service area for an estimated additional 16,553 sewer only customers. There are 58.4 square miles within the city limits and 179.6 square miles within the Murfreesboro Urban Growth Boundary (UGB).

The Murfreesboro Water and Sewer Department (Department) is an enterprise fund of the City of Murfreesboro. The fund is managed to fully recover the expenses of providing services from users (as opposed to taxes) and to build and preserve a substantial, long lived capital asset base in the treatment facilities, water distribution and storage system, wastewater collection system and repurified water distribution and storage system. Because utilities have many characteristics of a business, business accounting and financial management rules are usually applied to enterprise funds. Because of this, the presentation of the Department differs from that of the City General Fund Budget.

The Department's aggressive maintenance and replacement programs result in a greater asset value. The Total Asset Value as of June 30, 2015 was $449,222,771, a 5.15% increase from FY14. The Department financial and management model is to improve infrastructure each year, strive to provide excellent customer service, make knowledge-based decisions, and stretch the dollar to get the maximum benefit and minimize waste.

The employees of the Department are dedicated to providing its customers with a bountiful supply of clean, safe water, sanitary sewer service and recycled water service in the most economical and efficient way possible. The Department's responsibility to manage the City's municipal separate storm sewer system (MS4) National Pollutant Discharge Elimination System (NPDES) permit, which directly affects the quality of stormwater runoff within the City, allows for a holistic approach to affect the quality of the water we withdraw from our natural resources and the quality of the water returned to our streams, rivers and lakes.

There are a total of 164 full time and five (5) part time positions in water and sewer, including eight (8) full time stormwater positions budgeted for FY17.

There are three (3) licensed professional engineers, one (1) engineer-in-training, one (1) certified public accountant and fifty-four (54) employees with a Tennessee Certified Operators License for one or more of the following: water treatment, wastewater treatment, water distribution and wastewater collection system.

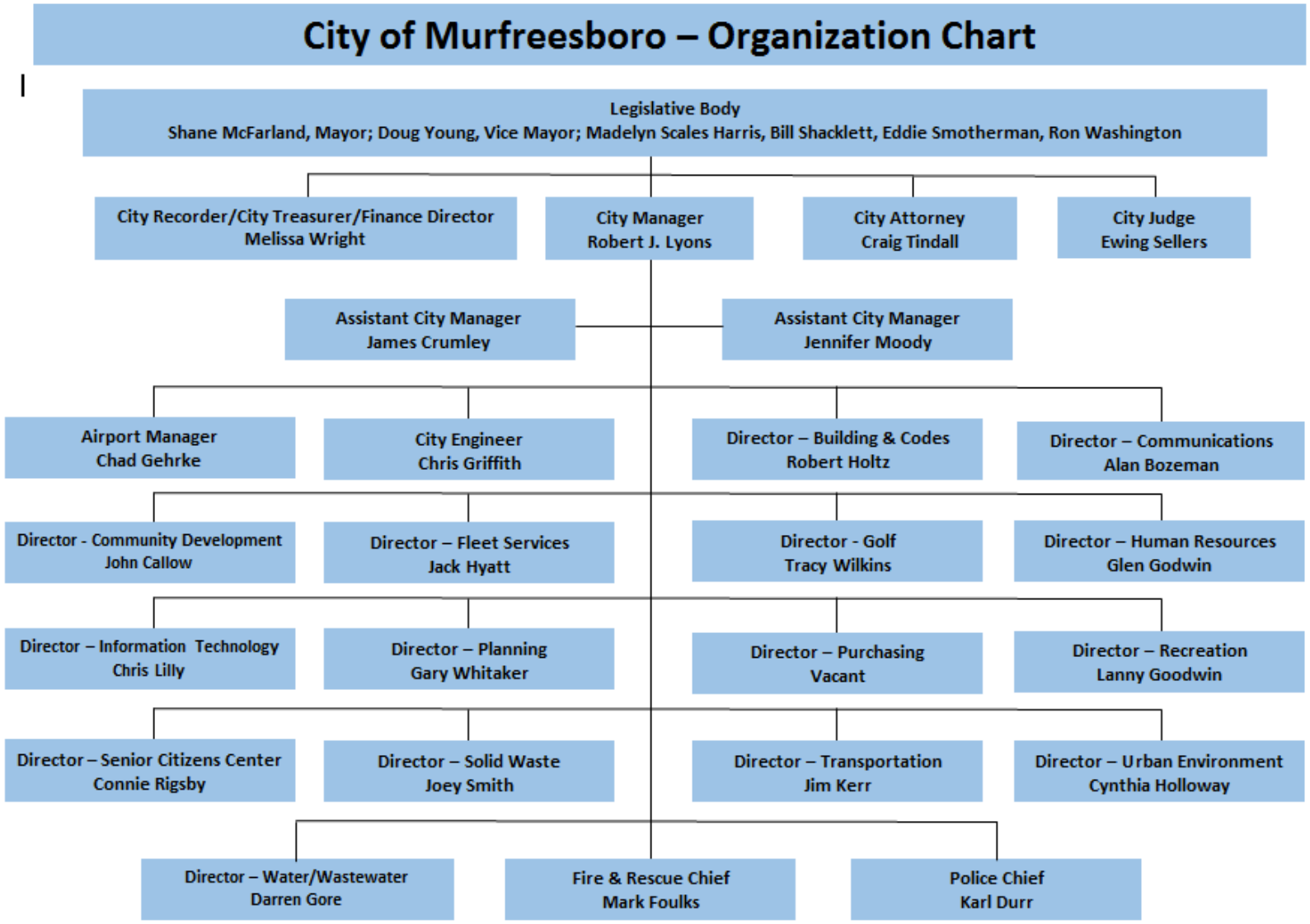
CITY GOVERNMENT

The City operates under a Council-Manager form of government. The governing body is the City Council, which consists of seven members who serve four-year terms of office. Non-partisan elections for City Council are held in even numbered years on a staggered basis. City Council members are elected at large. The City Council is responsible for adopting ordinances, the annual budget, appointing committees and establishing policies. The City Council appoints a City Manager, who is responsible for carrying out the policies and ordinances of the City Council and the day-to-day operations. The City Manager appoints and supervises the various department heads of the City.

The Water and Sewer Department was created in 1958 by the adoption of a city ordinance. The powers and duties of the Board are established in Article IV of the Murfreesboro City Code. A seven member citizen advisory board has the oversight of department policy and financial operations. The Board makes recommendations to the City Council. User charges provide the sole source of revenue for the Water and Sewer Department. No general tax base revenues are received.

The Murfreesboro Water and Sewer Board held its first meeting on December 12, 1958. The first members consisted of C. B. Huggins, Herman O. Jones (Councilman), Jennings A. Jones, Sam Lasseter, and Fount Pitts. At that time, the Mayor was A. L. Todd, Jr., City Manager was H. L. McCullough, and Joe W. Lovell was Superintendent of the Water Department. The Director of the Department reports to the City Manager. There have been five (5) Directors over the past fifty five years; Joe Lovell, Jim Clark, Doug Miller, Joseph Kirchner and Darren Gore.

The Water and Sewer Board meetings are held on the fourth Tuesday of each month at 3:30 p.m., at 1725 South Church Street, Murfreesboro.


City of Murfreesboro – Organization Chart
Legislative Body
Shane McFarland, Mayor; Doug Young, Vice Mayor; Madelyn Scales Harris, Bill Shacklett, Eddie Smotherman, Ron Washington
City Recorder/City Treasurer/Finance Director
Melissa Wright
City Manager
Robert J. Lyons
City Attorney
Craig Tindall
City Judge
Ewing Sellers
Assistant City Manager
James Crumley
Assistant City Manager
Jennifer Moody
Airport Manager
Chad Gehrke
City Engineer
Chris Griffith
Director – Building & Codes
Robert Holtz
Director – Communications
Alan Bozeman
Director - Community Development
John Callow
Director – Fleet Services
Jack Hyatt
Director - Golf
Tracy Wilkins
Director – Human Resources
Glen Godwin
Director – Information Technology
Chris Lilly
Director – Planning
Gary Whitaker
Director – Purchasing
Vacant
Director – Recreation
Lanny Goodwin
Director – Senior Citizens Center
Connie Rigsby
Director – Solid Waste
Joey Smith
Director – Transportation
Jim Kerr
Director – Urban Environment
Cynthia Holloway
Director – Water/Wastewater
Darren Gore
Fire & Rescue Chief
Mark Foulks
Police Chief
Karl Durr

BUDGET GUIDE

OVERVIEW

A budget is a financial and operating plan for a city enterprise fund for a period called a "fiscal year." The budget is a plan for the use of the fund's resources. Through these resources, services are provided to meet the needs and desires of water and sewer customers.

The City of Murfreesboro's and Water and Sewer Department's fiscal year begins on July 1 and ends on June 30. The fiscal year that begins on July 1, 2016 is referred to as FY17.

BUDGET PROCESS

The preliminary steps in the budget include a review of current economic conditions, revenue projections, community input, program initiatives, long range plans and federal and state mandates.

The departmental budget requests are submitted to the Director. These budget requests are reviewed by the Director and Assistant Director of Finance and Administration. The City Charter provides that the City Manager must prepare a proposed budget and submit it to the City Council not later than May 15 each year.

The Water and Sewer Board (Board) reviews the proposed budget at its April meeting. The Board recommends to the City Council the draft budget and any changes to rates and fees. The Director presents the draft budget and related recommendations to the City Council. The City Council conducts a public hearing on the proposed budget to obtain additional citizen input on the spending plan. Following the public hearing, the City Council amends the draft budgets as needed and adopts a budget ordinance for the city along with water and sewer rate ordinance and the water and sewer budget resolution.

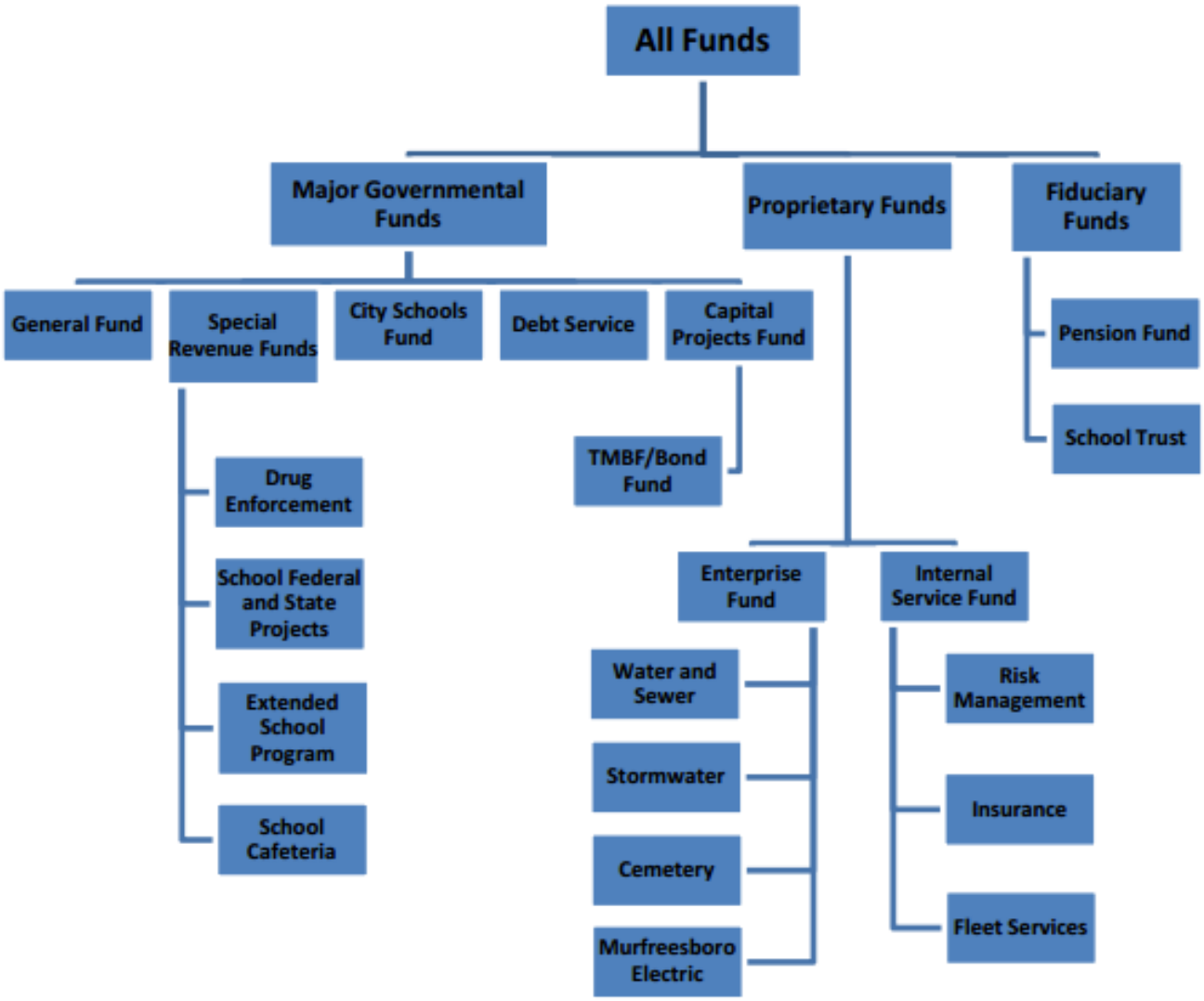
The WATER AND SEWER Department follows the general timeline in setting rates to coincide with the Department Budget Development:

- October Audit completed – Assessment of Working Capital Reserves available as of June 30.
- Cost of Service Study and Pro Forma commissioned in Sept/Oct. – Available by December.
- Capital Improvements Plan updated December – New Debt Service Cash Flow inserted into Trailblaze Financial Model; Large Capital Outlay from Working Reserves Identified
- January/February – Board and Council Update on Revised CIP, Debt Service and Rate Design
- March - Initiate Preliminary Budget

MONITORING OF REVENUES AND EXPENDITURES

Through the course of each fiscal year, the Director, Assistant Director of Finance and Administration and division heads monitor the budget established by City Council.

FUND OVERVIEW



FUND DESCRIPTIONS

A fund is established to account for a specific activity or purpose. Law mandates the creation of some funds. Other funds are established by management to demonstrate financial compliance with budget or legal requirements. All of the funds of the City of Murfreesboro can be divided into three categories: governmental funds, proprietary funds, and fiduciary funds.

GOVERNMENTAL FUNDS

Governmental funds are used to account for most of the City's basic services. Governmental fund information is useful in determining whether there are more or fewer financial resources that can be spent in the near future to finance the City's programs. The City of Murfreesboro maintains twenty-nine (29) individual governmental funds. The modified accrual accounting method is used to account for the City's general government operations. This accounting method measures cash and all other financial assets that can be readily converted into cash.

Murfreesboro City Schools prepares a separate budget document.

PROPRIETARY FUNDS

There are two types of proprietary funds: enterprise funds and internal service funds.

Enterprise funds are used to account for operations that are financed and operated in a manner similar to private business enterprises. The City's water and sewer department and electric department are the largest of these funds and prepare their own budget documents. While funds are appropriated by City Council, these enterprise funds are not presented in this document.

Internal service funds are used to account for activities that provide supplies and services for the City's other programs and activities. These services predominantly benefit governmental functions such as the fleet maintenance of vehicles and for its self-insurance programs.

FIDUCIARY FUNDS

Fiduciary funds are used to account for resources held for the benefit of parties outside of the government. The resources of those funds are not available to support the City's own programs. The accounting used for fiduciary funds is much like that used for proprietary funds. The Pension Fund is accounted for in this category.

EMPLOYEE COMPENSATION

Department employees are covered under the city's Classification and Compensation Plan.

WATER, SEWER AND STORMWATER BUDGET HIGHLIGHTS

The City Manager, in collaboration with the City Council, identified and established six priorities: public safety, neighborhoods, customer service, financial stability, economic growth and civic engagement. Department initiatives have been established based on these goals.

The following Department initiatives in the Proposed Budget have been established, in addition to those in the City Budget, based on the six priorities including:

STRONG AND SUSTAINABLE ECONOMIC AND FINANCIAL HEALTH

- Update financial reviews and operate within Financial Management Policies for the Water and Sewer Enterprise Fund and Stormwater Enterprise Fund.
- Maintain sufficient reserve funds to cover one year's operating expenses
- Maintain a Debt Service Coverage Ratio of 1.2 or greater
- Complete a Cost of Service Study for year ending June 30, 2015
- Fund capital expenses related to road projects from reserve funds
- Fund $1.25 million target annually for sewer rehabilitation
- Implement the Department's IT master plan in concert with the City's IT Master Plan, including but not limited to:
    - Continuous customer enhancement and engagement through ongoing improvements associated with the Department's Customer Information Service (CIS) and Utility Billing Software.
    - Enhance productivity and efficiency through continuous improvements associated with the Department's Mobile Workforce Management (MWM) enterprise solution.
    - Implement an Advanced Metering Infrastructure (AMI) network for the following benefits:
        - Enhance customer service through proactive engagement; namely early leak notifications
        - Transform the manual meter reading business operation; eliminate routine tasks and reassign existing personnel to elevated functions
        - Confront real water loss and come into full observance of industry metrics for conservation
        - The AMI project's core goal is to have customers "pay their fair share"; otherwise, inaccuracy in meters have to be subsidized by all rate payers
    - Implement new general ledger software
- Fund stormwater capital projects with "banked" working capital reserves, incurring no debt

EXCELLENT SERVICES WITH A FOCUS ON CUSTOMER SERVICE

- Procure and implement an Advanced Metering Infrastructure and replace meter reading software and equipment.
- Remodel customer service offices to better serve the public
- Monitor and report customer account ratios- customer service costs per account
- Monitor and report billing accuracy
- Implement interactive voice response (IVR) for customers for payment by phone.
- Prepare a management succession plan.

- Participate with the City to centralize the maintenance, operation, acquisition and planning for computers, GIS, technology, radio communications, mobile data and office equipment through coordination with the City's Information Technology (IT) Department.
- The City has developed an information technology master plan that will create a roadmap for the acquisition of computer hardware and software, including the replacement of the legacy system currently used for the general ledger and human resources information systems. The Department has participated in the procurement and selection, and will participate in the implementation.
- Participate in the City initiative for "Service Excellence".

ENGAGING OUR COMMUNITY

- Develop outbound voice and email messaging to customers, notifying them of issues associated with their account (i.e., potential leak), and upcoming initiatives involving the Water and Sewer Department.
- Develop more outreach and engagement with MWSD customers through the use of social media (e.g., Facebook, Twitter, etc.)
- Participate in the City's Facebook presence, Police and Fire academies, CityTV and other tools to reach out to our residents
- Implement an Advanced Metering Infrastructure (AMI) network to enhance customer service through proactive engagement; namely early leak notifications
- Conduct stakeholder meetings on critical issues.
- Participate in the City's initiative in implementing an electronic agenda system for City Council that will significantly decrease staff preparation of the council meeting packets as well as making the complete packet available to our residents via the website
- Continue co-permitting relationship with MTSU on NPDES MS4 Phase II stormwater permit

FY 2016 DEPARTMENT ACCOMPLISHMENTS

- Implement a new Financial Information Systems (FIS) for general ledger accounting and reporting under the MUNIS software platform.
- Beginning year four (4) of a five (5) year Information Technology Master Plan, and almost two (2) years into a successful utility billing and customer information systems (CIS) software (CIS.Infinity from Advanced Utility Solutions) along with a Mobility Workforce Management wireless work order system.
- Implementing Advanced Metering Infrastructure (AMI) network across MWSD's water service area; approximately 35% complete as of May 2016. In conjunction with this implementation MWSD has developed the meter reading workforce into a more sophisticated level of skills and abilities that will be capable of handling the new challenges associated with the AMI system and leak detection responsibilities.
- Received approval for a "Helping Hands" program in conjunction with Community Helpers of Rutherford County that provides as a venue to allow customers to pay additional monies above their water and sewer bill to provide a need based resource to help and/or supplement low income customers' ability to pay monthly water and sewer bills.
- Successfully initiated an "out bound" call campaign with the Department's new Interactive Voice Response (IVR) software in April 2016, giving advance notice to customers needing to pay prior to water being turned off.

- Applied for a renewal of the City's National Pollutant Discharge Elimination System (NPDES) permit from the Tennessee Department of Environment and Conservation.
- Conduct on-going testing and analysis of the biological water quality analyses on the West and East Fork Stones River to prepare the foundation for additional potential discharges into the City of Murfreesboro's receiving streams; allowing for continued growth.
- Completed a permanent hydrogen peroxide feed system at the Stones River Water Treatment Plant to decrease disinfection by-product (DPB) removal and allow for full compliance with the DBP Phase 2 rule forthcoming.
- Developed 3rd Annual Review of Trends and Strategic Planning Issues document for the following purposes:
    - Illustrate current trends pertinent to water and wastewater services in the MWSD service area
    - Describe priority issues relating to water supply/treatment/distribution and wastewater collection/treatment/disposal/reuse in Murfreesboro
    - Present a summary of strategic plans to address each issue in the coming year
    - Define the components of each issue/plan that require a financial commitment for the purpose of developing the annual operating budget, 5 yr Capital Improvements Plan (CIP), reserve funds, and financing of debt
- Completed the following capital improvement projects:
    - Southwest Regional Pumping Station
    - Southwest Regional Force Main
    - Sinking Creek WWTP Headworks facility
- Three hundred and seventy-eight (378) days into a 900 day project timeline to expand the Sinking Creek Treatment Plant from 16 million gallons per day (MGD) to 24 MGD (Notice to Proceed date April 27, 2015).
- Participated in the third year in a row with the 2014 AWWA Utility Survey that allowed for benchmarking and performance measurement against peer utilities.
- Purchased Bluebeam Revu PDF software solution to take a first step in a paperless work process involving design engineers plans submittal and review process for planning commission and staff comments.
- Grew the Murfreesboro Water and Sewer Department Facebook follower and have created a culture within the Department to advertise success and accomplishments through social media, as well as work in concert with the City's Communications Dept.
- The Director gave a presentation at the following conferences:
    - National Utility Management Conference (UMC) in San Diego, CA on "Developing an Advanced Metering Infrastructure (AMI) Business Case and Procurement Strategy".
    - Environmental Show of the South (ESOS) in Gatlinburg, TN on "Water Reuse in Tennessee: A Municipal Utility Provider's Perspective & UOTF Case Study"; co-presented with George Garden with the Tennessee Department of Environment and Conservation
- On-going coordination between the Department's Water Resource Integration Plan (WRIP) and Murfreesboro 2035 Comprehensive Plan. The WRIP will identify sustainable and affordable approaches for water resource infrastructure support.

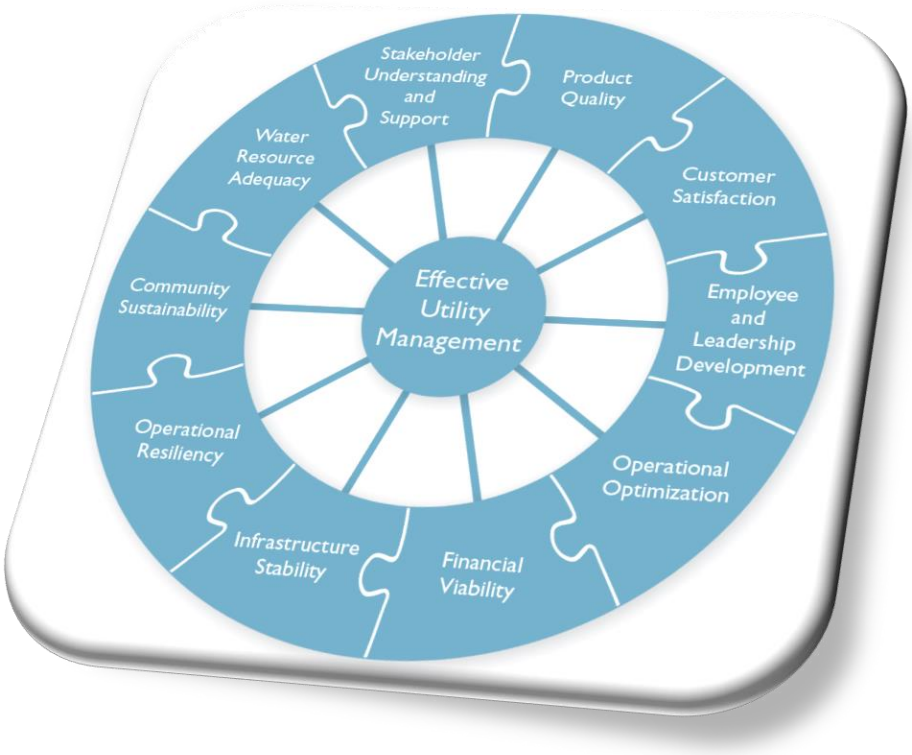
- Continued leveraging the Department's Water/Wastewater Mechanical/Electrical Services Contract to facilitate a "work order" based system using established unit prices (similar to the City's annual concrete and paving contracts), in order to aid the plants with larger projects. The work orders approved in FY16 are as follows:
    - 15-01 SRWTP Raw Water Pump Replacements $431,873
    - 15-02 SCTP Repurified Water Pump VFD Repl $45,211
    - 15-03 Rebuild SRWTP #1 Raw Water Pump $20,452
    - 15-04 Aid replacing 3 - 8" Plug Valves @ PS #28 $3,165
    - 15-05 Perm Generator Connection to PS #14 $31,488
    - 15-06 SCTP 3-Rotary Biosolids Press Install TBD
    - 15-07 Aid to install 3-Pumps @ PS #28 $6,646
    - 15-08 Raw Water Traveling Screen Inspection $3,273
    - 16-01,-03 Replace Clarifier Collector Rings (2) $10,999
    - 16-02 Replace English Hill Pump Station $55,443

FY 2017 DEPARTMENT GOALS

- In FY17, the Department hopes to have full scale implementation of the telemetry system completed associated with the Advanced Metering Infrastructure (AMI) project.
- Seek to complete 2/3 of the improvements associated with the Sinking Creek plant upgrade, including a new ultraviolet (UV) disinfection system that is anticipated to save energy.
- Replacement of Fournier Biosolids Presses and the associated electronic and networking systems, variable frequency drives, and Penn Valley sludge transfer pumps. Biosolids handling will need to start becoming a priority with the Middlepoint landfill nearing the end of its ability to dispose of biosolids. A sustainable approach in taking biosolids to class "A" status will need to be researched and the appropriate business case developed.
- Continue to participate in the Murfreesboro 2035 study and tailor the Water Resource Integration Plan (WRIP) with to the findings of the 2035 plan. The WRIP is intended to:
    - Look holistically at the management of water (drinking water, wastewater, repurified water, and stormwater) within the potential service areas of the Murfreesboro Water & Sewer Department.
    - Coordinate efforts with the City's Comprehensive Plan, so that the overall goal of facilitating the growth of the City of Murfreesboro will be accomplished in an orderly fashion with consideration of affordable and sustainable water management.
    - Coordinate water management strategies with the Consolidated Utility District to identify challenges and strategies to providing water services within the Urban Growth Boundary.
    - Coordinate with other studies currently underway assessing the assimilative capacity of the East and West Fork Stones Rivers.
    - Develop a framework for the Murfreesboro Water & Sewer Department to utilize as a strategic plan for utilizing Effective Utility Management to guide its evolution into a "Water Resource Utility of the Future"
- Develop strategic level goals and objectives as pertaining to the City's contract for water supply with the Corps of Engineers; start setting some fortifications around our current water supply contract, leverage the precedent set by Lake Lanier given water supply authority by the opinion of

the Chief Counsel of the Army in June 2012, and start a campaign at the State level to give municipalities ownership of return flows (e.g., effluent discharges that recharge the reservoir).

- Seek partnerships with agricultural and industrial operations to increase the disposal rate of effluent for land application generated at the Sinking Creek plant.
- Continue to prepare strategic plans to ensure proper succession plan for key management personnel as well as allow for employee development and training.
- Conduct on-going testing and analysis of the biological water quality analyses on the West and East Fork Stones River to prepare the foundation for additional potential discharges into the City of Murfreesboro's receiving streams; allowing for continued growth.
- Continue to make a presence at public outreach events such as Earth Day, partner with MTSU when the opportunity presents itself, and educate public on water cycle, stormwater best practices and recycling of water for the "right use".
- Continue developing predictive benchmarking and performance measurement criteria that advance MWSD into a performance driven utility. Specific to this year's budget, MWSD expects to launch a demonstration project into Power BI (Business Intelligence) that will allow for leveraging CIS, utility billing and financial data to be utilized in a "living" dashboard.
- Enhancing security in the Customer Service Area through renovation and remodeling efforts.
- Continued Partnering with Key Stakeholders, such as the U.S. Army Corps of Engineers, Tennessee Department of Environment and Conservation, the Rutherford County Chamber of Commerce, General Mills / Pillsbury, Rutherford County, Middle TN State University, Consolidated Utility District, and the development community.
- Develop development "tool kits" such as grease interceptor requirements for food service establishments discharging fats, oils and grease (FOG), and industrial discharge criteria for interested industries looking to Murfreesboro as a potential building site.
- Seek to simplify the development process for small business owners and integrate into a "one stop shop" culture.



MWSD follows the **Effective Utility Management (EUM)** model and its ten attributes represent our departmental goals. The EUM framework allows us to assess our strengths and weaknesses, establish priorities, and identify the specific actions we must take to address the specific goal.

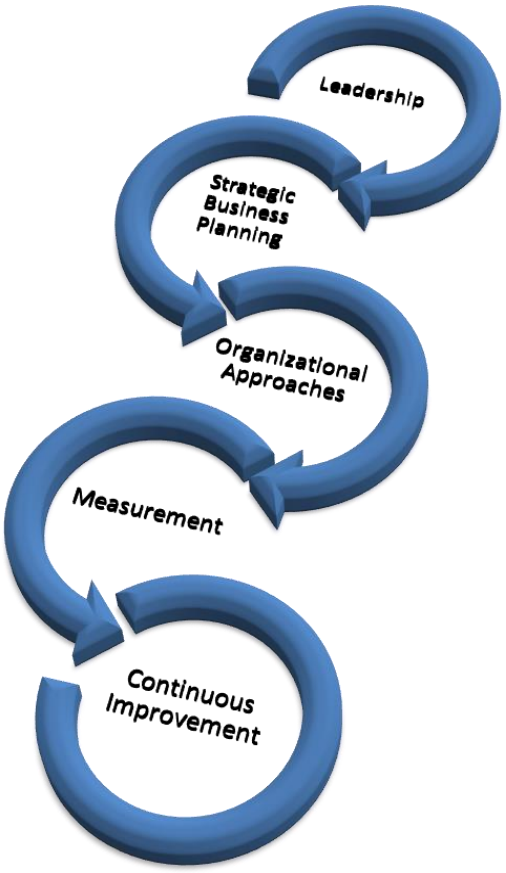
In 2015, a Steering Committee was commissioned to reevaluate EUM in light of a number of issues, practice changes, and industry challenges which have emerged in the industry since EUM's inception in 2007. The Committee's report was recently issued and reflects some structural and substantive changes which we believe improve the model. The newly modified 10 Attributes of Effectively Managed Utilities (our goals) are listed below with changes highlighted:

- Product Quality (PQ)
- Customer Satisfaction (CS)
- Employee and Leadership Development (ELD)
- Operational Optimization (OO)
- Community Sustainability (CSU)
- Financial Viability (FV)
- **Enterprise Resiliency (ER)** *(changed from Operational Resiliency (OR))*
- **Infrastructure Strategy and Performance(ISP)** (*changed from Infrastructure Stability (IS))*
- **Water Resource Sustainability (WRS)** (*changed from Water Resource Adequacy (WRA))*
- Stakeholder Understanding and Support (SUS)

EUM also identifies five (5) keys to management success. These keys were also modified as follows:

- Leadership
- Strategic Business Planning
- **Organizational Approaches*(removed and folded into all of the other keys)***
- Measurement
- **Continual Improvement Management** *(changed from Continual Improvement Framework)*
- **Knowledge Management** *(New)*

The following sections describe multiple examples MWSD implementation of EUM's five keys to management success. Some describe accomplishments of the past 2-3 years, others are ongoing activities, and others emerging initiatives just underway.



LEADERSHIP

MWSD staff is demonstrating leadership in the industry as described below.

- Four of our senior treatment plant operators are among the first in TN and Top 10 in the US to satisfy the requirements for and receive the new certification of Professional Operator. These individuals include *Alan Cranford and Alison McGee*, Manager and Asst. Manager, respectively, at our Stones

River Water Treatment Plant; and *John Strickland and Joe Russell*, Manager and Master Plant Operator, respectively at our Sinking Creek Wastewater Treatment Plant.

- Multiple senior staff regularly makes presentations at the major national and regional industry association conferences. These include AWWA, WEF, Water Professionals, and Utility Management.
- MWSD is currently preparing its first Water Resources Integration Plan (WRIP). As a companion document to the Murfreesboro 2035 Plan, the WRIP will describe the vital aspects of water supply, treatment, and distribution; wastewater collection and treatment; effluent disposal and reuse; and stormwater management that will be the foundation for and primary driver of planful growth in our Urban Growth Boundary.
- Our Director is actively participating in a new water resource/supply initiative that has the potential for both regional and national reach and influence. A group of water supply partners has formed to discuss their experiences with the water supply program of the US Army Corps of Engineers (USACE). Participants include state, local, and regional entities and interstate river basin commissions from across the eastern and western United States. The common thread is reliance on USACE projects for water supply. Discussions have coalesced around the need for advocacy at the national level specific to the water supply purpose of USACE facilities. The group has determined that a national network of water supply partners is needed to share information, collaborate to promote shared objectives where appropriate, and provide a point of contact for members of Congress and the USACE. To date, the overall stated goal of the group is:
  To preserve and enhance the nation's water supply, protect traditional State authorities, and ensure that water supply interests share equitably in the benefits provided by USACE water projects
  There is much more to come.

STRATEGIC BUSINESS PLANNING

Our *Annual Review of Trends and Strategic Planning Issues* (ARTSPI) serves to chart the prioritized game plan for 2016. The purpose of the document is to:

- Illustrate current trends pertinent to water and wastewater services in the MWSD service area
- Describe priority issues relating to water supply/treatment/distribution and wastewater collection/treatment/disposal/reuse in Murfreesboro
- Present a summary of strategic plans to address each issue in the coming year
- Define the components of each issue/plan that require a financial commitment for the purpose of developing the annual operating budget, 5 yr Capital Improvements Plan (CIP), reserve funds, and financing of debt

The guidance document describes and prioritizes the key areas of focus as listed below. Specific actions address one or more EUM attributes and are each provided for in the fiscal year budget.

- Continue the USACE Initiative (WRS)
- Install and implement AMI and fixed leak detection system (CS,ELD,OO,FV,ER,ISP)
- Push forward on the Effluent Disposal initiatives of maintaining current limits in the renewed (2016) NPDES permit, acquiring the 303d delisting of Segment 2000 of the West Fork, and continuing

development of data to support the integration of site specific bioassessment data into future permits as controlling criteria (PQ,OO,FV,ER,ISP)

- Initiate the $2.7 M sewer rehabilitation contract, maintain system-wide continuous sewer flow monitoring, and deploy off-road sonar vehicle for major interceptor(s) inspections (ISP,OO,ER)
- Expand wastewater infrastructure to maintain capacity for rapid growth including staying on schedule with the Sinking Creek WWTP expansion and beginning plans for a new northeast regional lift station (ISP,ER,CSU)
- Complete the WRIP (CSU)
- Push forward in initiating and strengthening strategic partnerships (CSU,CS,ER)
- Implement customer service initiatives (CS)

The reader is referred to the 2016 ARTSPI for a description of the specific actions to be undertaken in the coming year regarding these areas of focus.

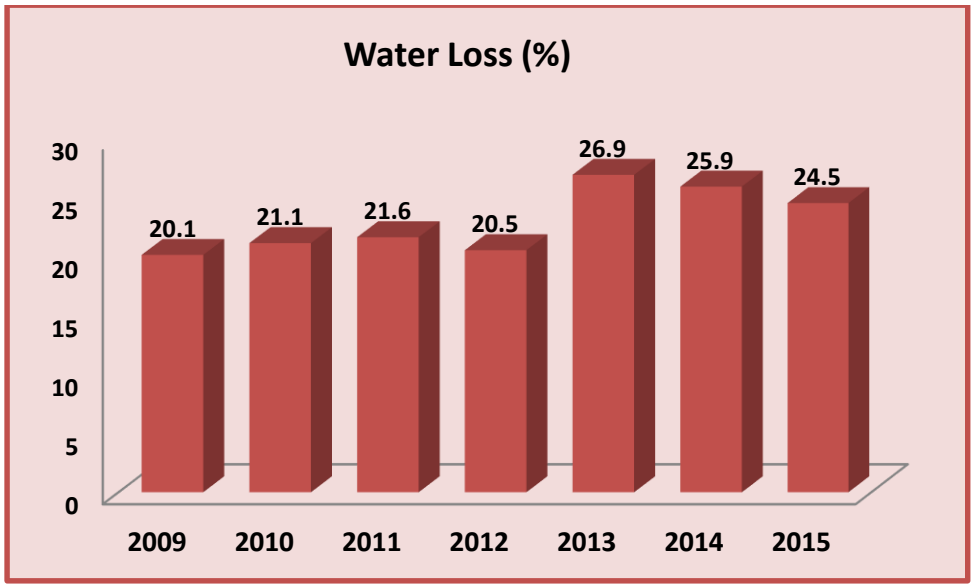
MEASUREMENT

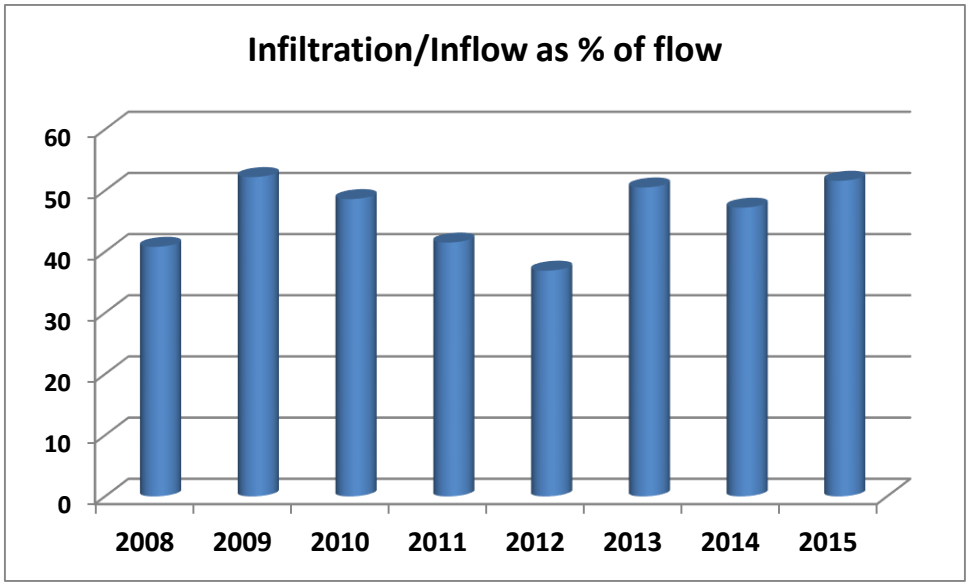
Benchmarking allows a utility to compare performance with other utilities. The American Water Works (AWWA) and the Water Environment Federation (WEF), the primary technical and educational organizations for water and wastewater quality professionals, of which the Department is a utility member, jointly developed a benchmarking survey encompassing 22 water and wastewater performance indicators as a basis for comparison to other utility operations. This year, AWWA moved the survey period to encompass the 2015 FY. MWSD recently submitted our survey results and expects the survey report to be available in June 2016.

This year, MWSD will begin to utilize a newly developed Workload/Utilization Model for the Customer Service area. The model is a management tool by which the monthly workload can be fully defined, measured, and trended. The information is intended to provide management with the necessary data to optimize cross training and load leveling thereby improving staff utilization so as to more efficiently accomplish the mission of excellent customer service.

CONTINUAL IMPROVEMENT FRAMEWORK

Reducing water loss and sewer overflows remain as primary goals for MWSD. Our ARTSPI addresses both areas with specific actions planned in the coming year employing new tools and methodologies to improve performance in these areas.





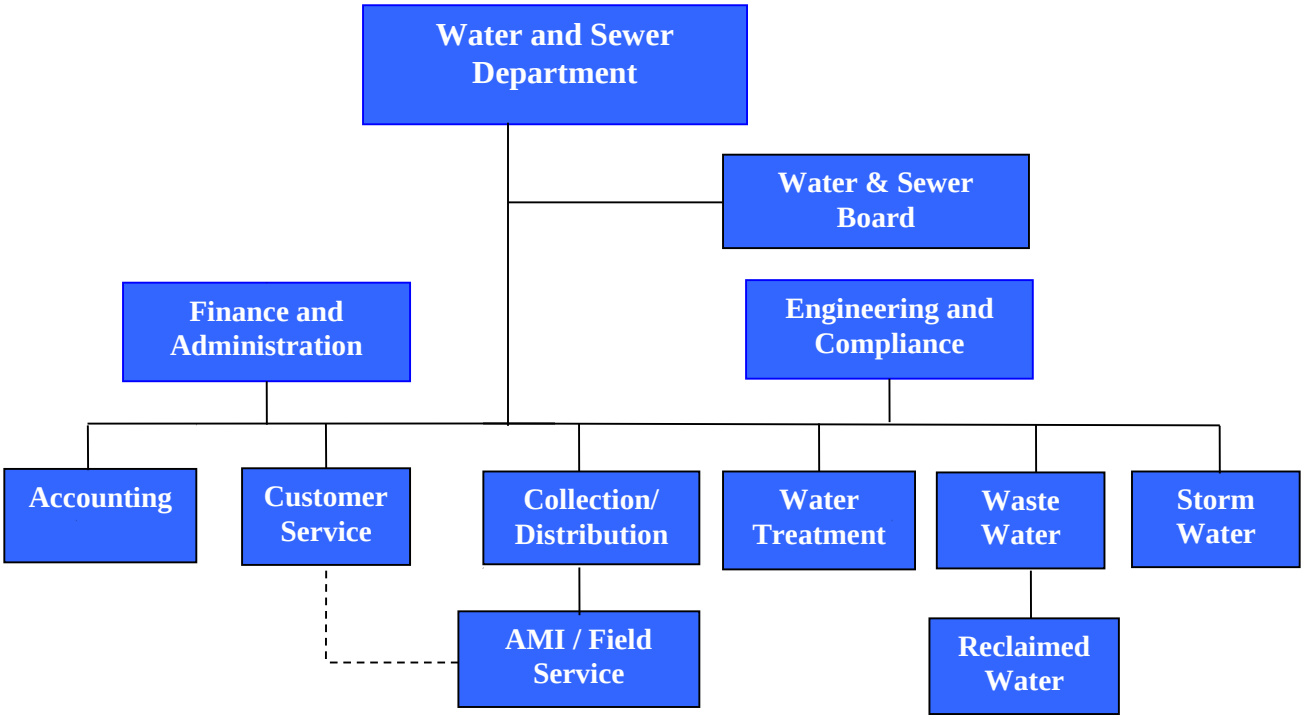
Note: The potential to incur Sewer Overflows can be most directly measured by the percentage of our wastewater flow that is infiltration and inflow.

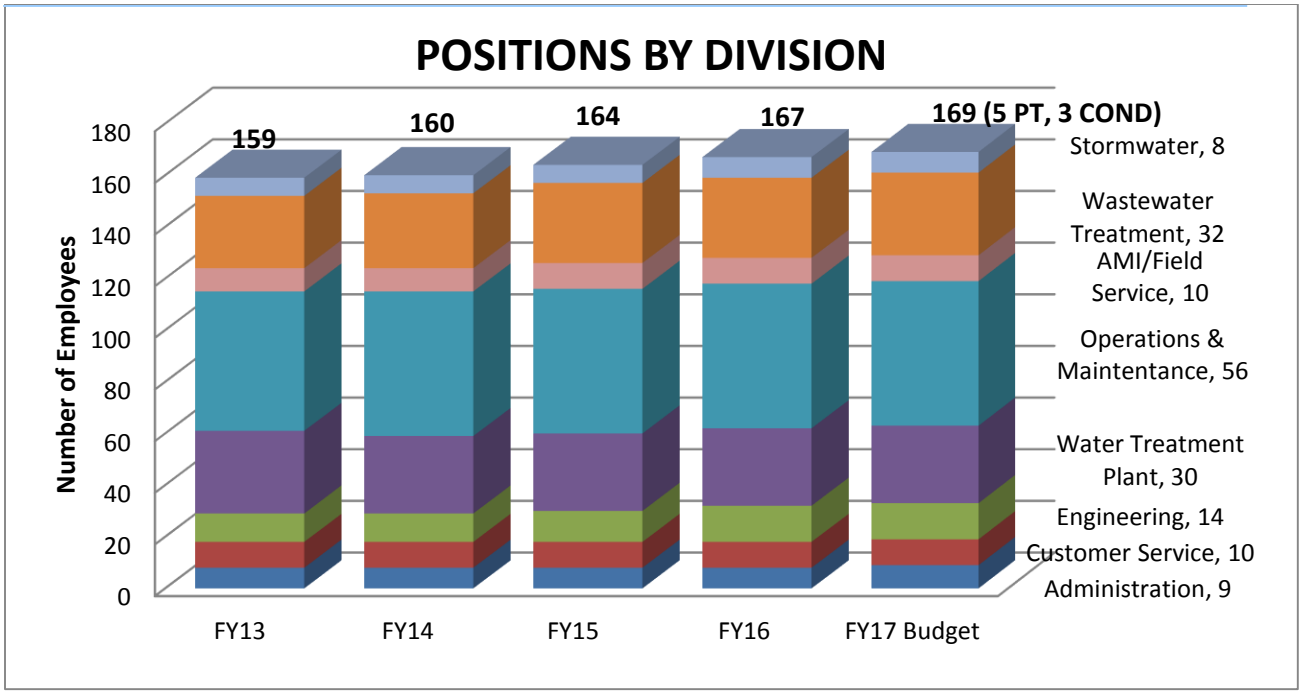
KNOWLEDGE MANAGEMENT

Knowledge management is the new EUM key to management success, and is described as "critical to ensuring reliable utility operations". It encompasses the regular development, use, and updating of SOPs, mechanisms to capture institutional knowledge of experienced personnel, and the effective use of technological advances in information collection, evaluation, sharing, and archiving.

Over the past three years MWSD has embarked on substantial advancements in information technology utilization. Our new Customer Information System (CIS), Mobile Workforce Management System (MWM), Interactive Voice Response (IVR), and Advanced Metering Infrastructure (AMI) and Fixed Leak Detection System currently under construction are and will produce a massively expanded knowledge and information base from which to operate. Full utilization and optimization of these new tools is a process underway—and one we intend to accelerate and capitalize on with respect to improving efficiency, communication, and decision making.

As always, the staff maintains regular communication with our Water and Sewer Board on all of these issues, reporting both successes and challenges as we move forward.


Water and Sewer Department
Water & Sewer Board
Finance and Administration
Engineering and Compliance
Accounting
Customer Service
Collection/ Distribution
Water Treatment
Waste Water
Storm Water
AMI / Field Service
Reclaimed Water


POSITIONS BY DIVISION
Number of Employees
180
160
140
120
100
80
60
40
20
0
159
160
164
167
169 (5 PT, 3 COND)
FY13
FY14
FY15
FY16
FY17 Budget
Stormwater, 8
Wastewater Treatment, 32
AMI/Field Service, 10
Operations & Maintentance, 56
Water Treatment Plant, 30
Engineering, 14
Customer Service, 10
Administration, 9

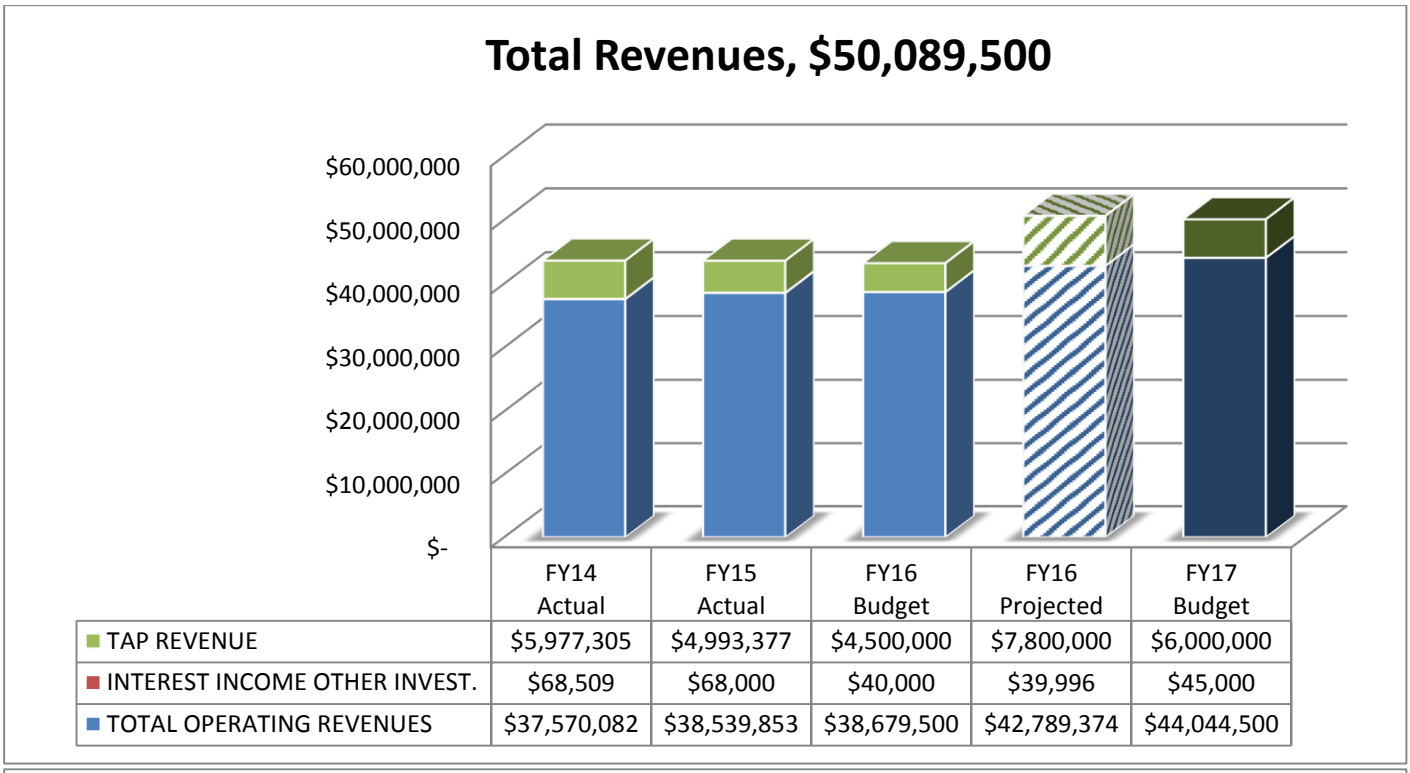
WATER AND SEWER BUDGET SUMMARY

REVENUES	FY14 Actual	FY15 Actual	FY16 Budget	FY16 Projected	FY17 Budget	Budgeted Increase (Decrease)
WATER, OPERATING REVENUE	$ 13,857,301	$ 14,536,752	$ 14,489,200	$ 15,491,959	$ 15,932,000	$ 440,041
REPURIFIED, OPERATING REVENUE	$ 28,656	$ 26,597	$ 25,000	$ 28,000	$ 28,000	$ -
SEWER, OPERATING REVENUE	$ 23,218,923	$ 23,516,938	$ 23,671,300	$ 26,218,339	$ 27,259,500	$ 1,041,161
OTHER INCOME AND EXPENSE	$ 465,202	$ 459,566	$ 494,000	$ 1,051,076	$ 825,000	$ (226,076)
TOTAL OPERATING REVENUES	**$ 37,570,082**	**$ 38,539,853**	**$ 38,679,500**	**$ 42,789,374**	**$ 44,044,500**	**$ 1,255,126**
INTEREST INCOME OTHER INVEST.	$ 68,509	$ 68,000	$ 40,000	$ 39,996	$ 45,000	$ 5,004
TAP REVENUE	$ 5,977,305	$ 4,993,377	$ 4,500,000	$ 7,800,000	$ 6,000,000	$ (1,800,000)
TOTAL REVENUES	**$ 43,615,896**	**$ 43,601,230**	**$ 43,219,500**	**$ 50,629,370**	**$ 50,089,500**	**$ (539,870)**
EXPENSES						
WATER, OPERATING & MAINTENANCE	$ 4,603,655	$ 5,022,150	$ 5,067,739	$ 5,754,225	$ 6,701,338	$ 947,113
SEWER, OPERATING & MAINTENANCE	$ 5,606,295	$ 5,769,192	$ 6,690,634	$ 6,275,638	$ 7,949,314	$ 1,673,676
CUSTOMER BILLING & COLLECTION	$ 1,290,527	$ 1,355,891	$ 1,535,374	$ 1,669,367	$ 2,033,696	$ 364,329
ADM & GENERAL EXPENSES	$ 6,847,325	$ 6,883,611	$ 7,111,044	$ 6,107,230	$ 5,045,406	$ (1,061,823)
TOTAL OPERATING EXPENDITURES	**$ 18,347,802**	**$ 19,030,844**	**$ 20,404,791**	**$ 19,806,460**	**$ 21,729,755**	**$ 1,923,295**
CAPITAL EXPENDITURES	$ 6,105,634	$ 2,561,638	$ 4,584,734	$ 4,818,234	$ 6,653,565	$ 1,835,331
DEBT SERVICE	$ 10,963,144	$ 11,127,995	$ 12,031,467	$ 10,857,467	$ 12,159,242	$ 1,301,775
TRANSFERS TO RESERVES	$ 6,810,316	$ 6,831,321	$ 5,946,732	$ 10,256,732	$ 9,546,938	$ (709,794)
TOTAL EXPENDITURES/RESERVES	**$ 42,226,896**	**$ 39,551,798**	**$ 42,967,724**	**$ 45,738,893**	**$ 50,089,500**	**$ 4,350,607**
DEBT COVERAGE RATIO (DCR)						
OPERATING REVENUES	$ 37,570,082	$ 38,539,853	$ 38,679,500	$ 42,789,374	$ 44,044,500	$ 1,255,126
OPERATING EXPENSES	$ 18,347,802	$ 19,030,844	$ 20,404,791	$ 19,806,460	$ 21,729,755	$ 1,923,295
FUNDS AVAILABLE FOR DEBT COVERAGE	$ 19,222,280	$ 19,509,009	$ 18,274,709	$ 22,982,915	$ 22,314,745	$ (668,169)
DEBT SERVICE	$ 10,963,144	$ 11,127,995	$ 12,031,467	$ 10,857,467	$ 12,159,242	$ 1,301,775
DCR (Goal = >1.2)	**1.75**	**1.75**	**1.52**	**2.12**	**1.84**	

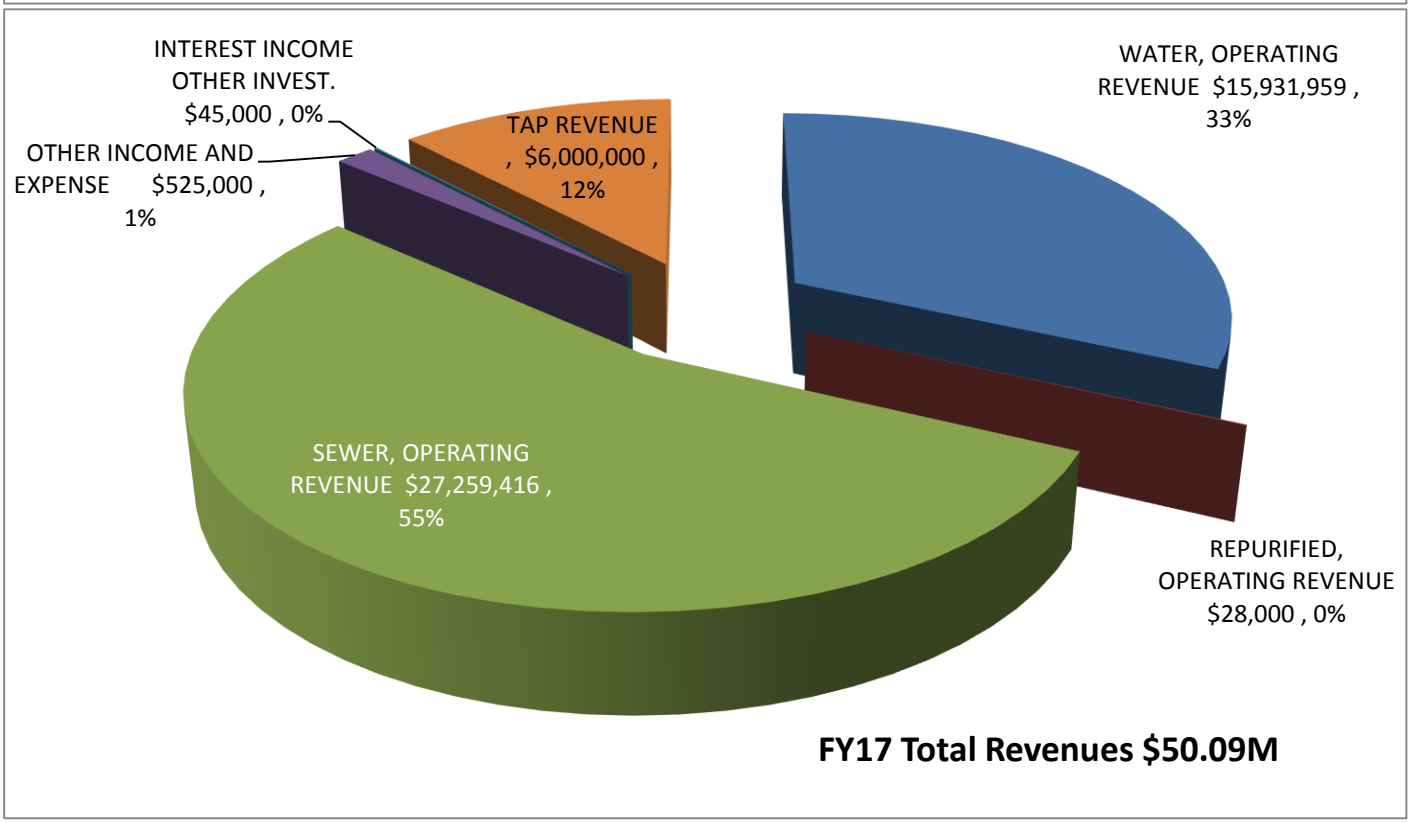
The following is a summary of the budget:

- The FY17 Budget reflects $50,089,500 in total revenues. The proposed budget is $6,870,000 more than the FY16 budget and $(539,870) less than FY16 projections.
- FY17 Operating Revenues total $44,044,500, an increase of $1,255,126 over FY16 projections and $5,365,000 increase over FY16 budget.
- No rate increase is proposed for residential, or 5/8" size meters; however, the minimum monthly allowance for meter sizes one (1) inch and larger is recommended to be reduced by 50% of the monthly minimum volume (cf) allowance. This reduction is year four (4) of a five (5) year plan to eliminate volume allowances under the minimum monthly bill.
- The minimum monthly dollar amounts for all meter sizes 1" and larger remain the same.
- The water rate is recommended to remain at $2.74 per 100 cubic feet. The Sewer Service Fee is recommended to remain at $3.34 per 100 cubic feet and the Sewer Operation and Maintenance Fee is recommended to remain at 90 cents per 100 cubic feet.

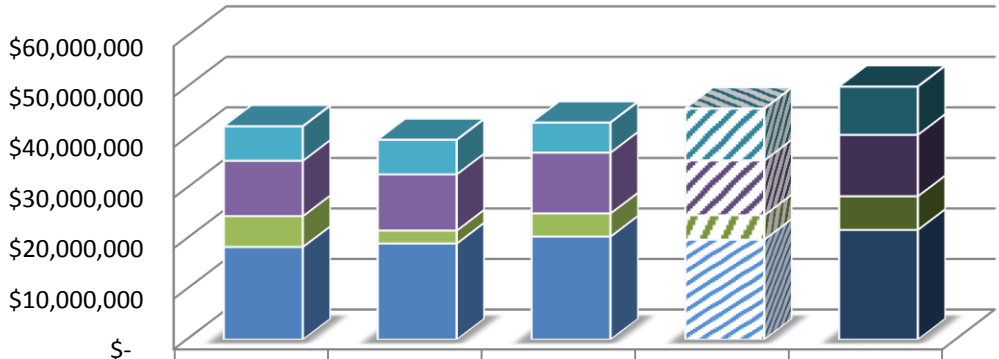
- Water and sewer connection fees are set at $1,200 and $2,550, respectively. From February 2011 through February 2012, water and sewer connection fees were reduced to $950 and $1,500, respectively. Effective March 1, 2012 rates returned to their pre-reduction levels. No increase in connection fees are budgeted for FY16.
- Customer Service/Collection and Administrative/General expenses decreased by $1,567,316 (-18.1%). This reduction is due to the new finance software apportioning more of what was previously assigned as admin costs into the water and wastewater operating and maintenance expenses, thus the larger increases in those areas.
- Water Treatment Operating and Maintenance Expenses increased $947,113 (16.5%).
- Wastewater Treatment Operating and Maintenance Expense increased $1,673,676 (26.7%)
- Rate funded capital purchases total $6,653,565, an increase of $2,068,831 (45.1%) from FY16 budget.
- Debt Service Expenses total $12,159,242, an increase of $127,775 (1.08%) from FY16 budget.
- FY15 transfers to Reserves from connection fees and other sources have been budgeted at $9,546,938, a decrease of ($709,794) from FY16 projections. This includes $1,486,438 in reserve income for sinking funds to pay cash for large upcoming capital expenditures and $335,000 in reserves for future debt.
- The Department is funding $65,000 for pension administration by the City.
- Department and Stormwater fund $140,000 to the City for legal services.
- The Department is funding $15,000 for the City's Human Resources Department.
- There are a total of one hundred sixty-three (165) full time and four (4) part time positions budgeted. Included in the full time positions are eight (8) positions in the stormwater department. There are four (4) new positions requested for the FY17 personnel budget:
    - Administration/Finance – One (1) new position; an Accounting Specialist for succession planning purposes.
    - Engineering – One (1) part time Administrative Support Specialist position proposed as a full time. This position was full time prior to the recession occurring in 2009. When the recession occurred, this position was vacated and not filled. It was filled as part-time last year, and warrants a full time employee based on increased work volume.
    - Customer Service – One (1) full time Cashier reduced to a part-time position. With the decreased in office payments, the Department believes replacing a full time position will still provide for coverage during "peak" customer traffic and "fill in" for vacation and sick leave absences of the other two (2) full time Cashiers.
    - Wastewater Plant – A new Plant Operator position is being requested due to increased need as part of the 50% plant expansion, as well as moving towards two (2) operators per shift for safety purposes.



	FY14 Actual	FY15 Actual	FY16 Budget	FY16 Projected	FY17 Budget
TAP REVENUE	$5,977,305	$4,993,377	$4,500,000	$7,800,000	$6,000,000
INTEREST INCOME OTHER INVEST.	$68,509	$68,000	$40,000	$39,996	$45,000
TOTAL OPERATING REVENUES	$37,570,082	$38,539,853	$38,679,500	$42,789,374	$44,044,500

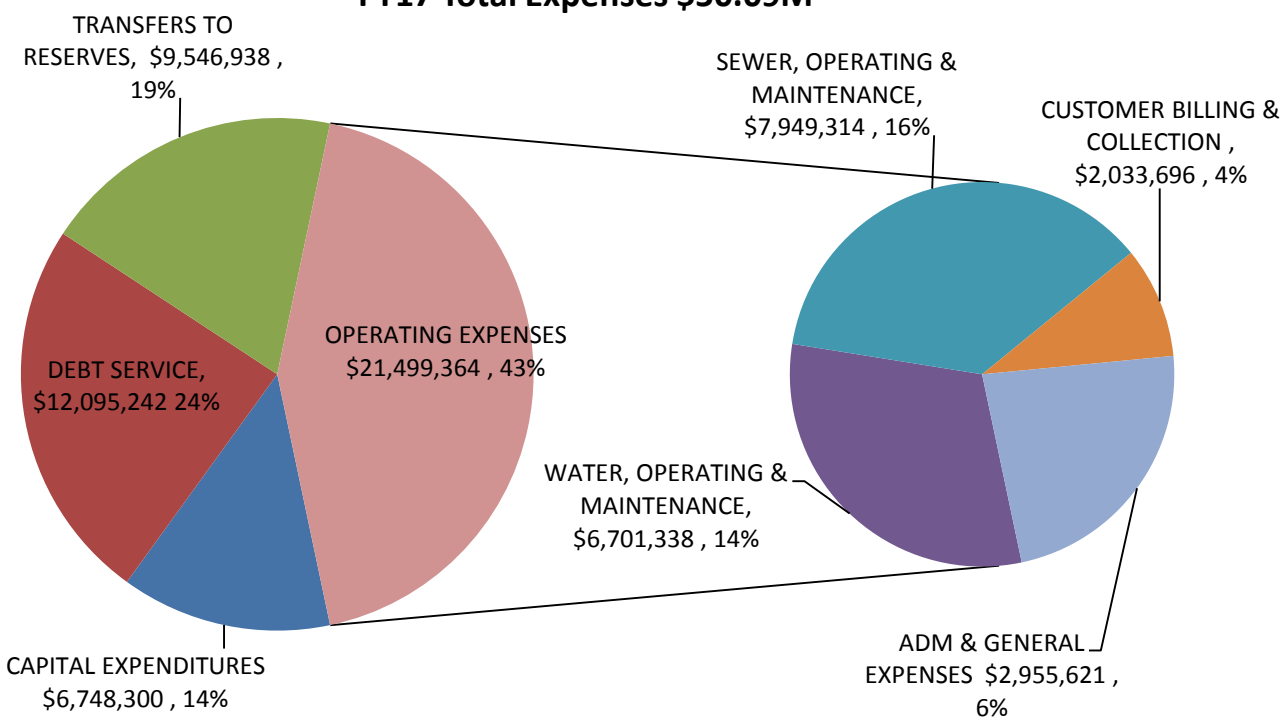


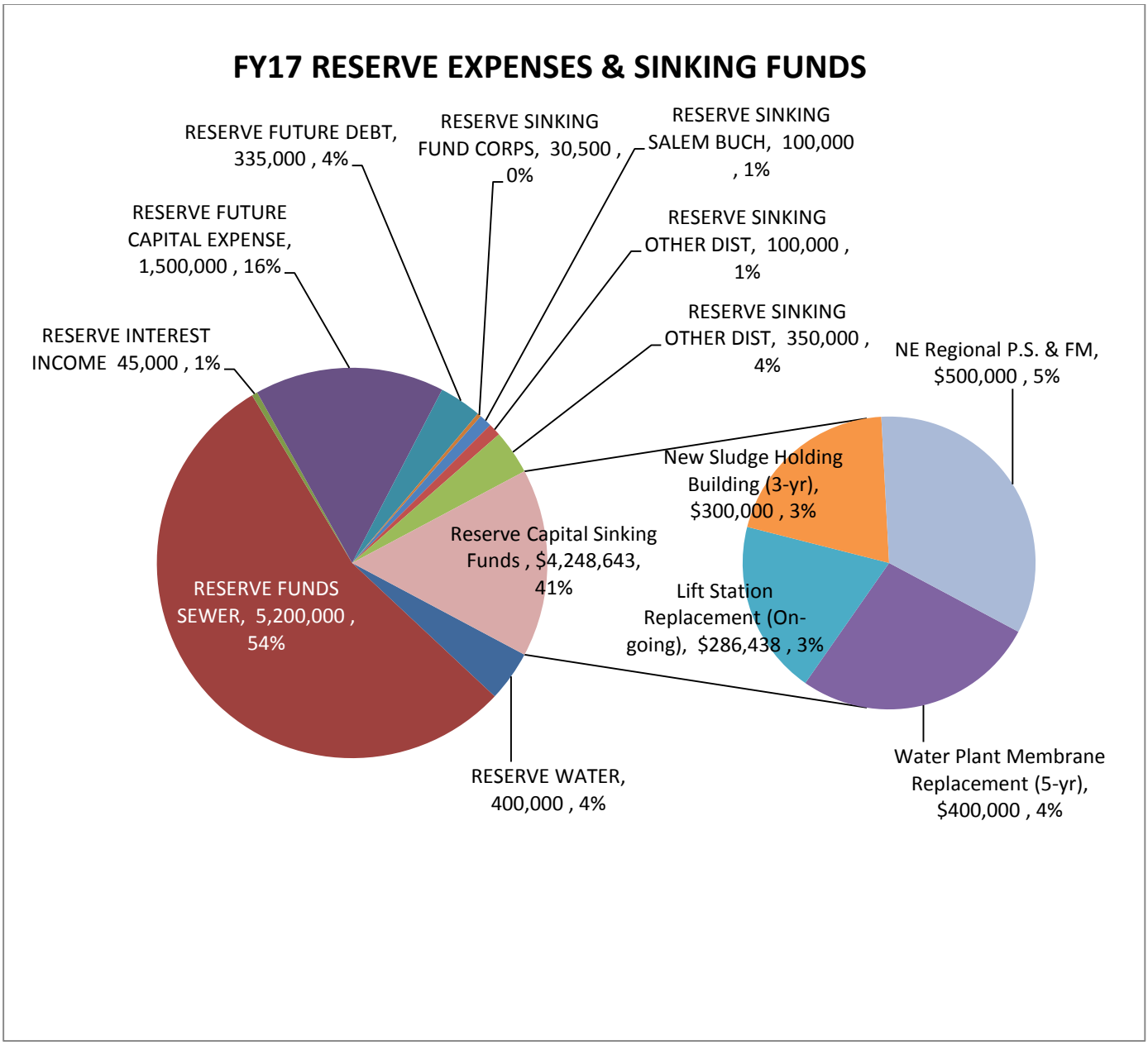
Total Expenses, $50,089,500



	FY14 Actual	FY15 Actual	FY16 Budget	FY16 Projected	FY17 Budget
TRANSFERS TO RESERVES	$6,810,316	$6,831,321	$5,946,732	$10,256,732	$9,546,938
DEBT SERVICE	$10,963,144	$11,127,995	$12,031,467	$10,857,467	$12,159,242
CAPITAL EXPENDITURES	$6,105,634	$2,561,638	$4,584,734	$4,818,234	$6,653,565
TOTAL OPERATING EXPENDITURES	$18,347,802	$19,030,844	$20,404,791	$19,806,460	$21,729,755

FY17 Total Expenses $50.09M



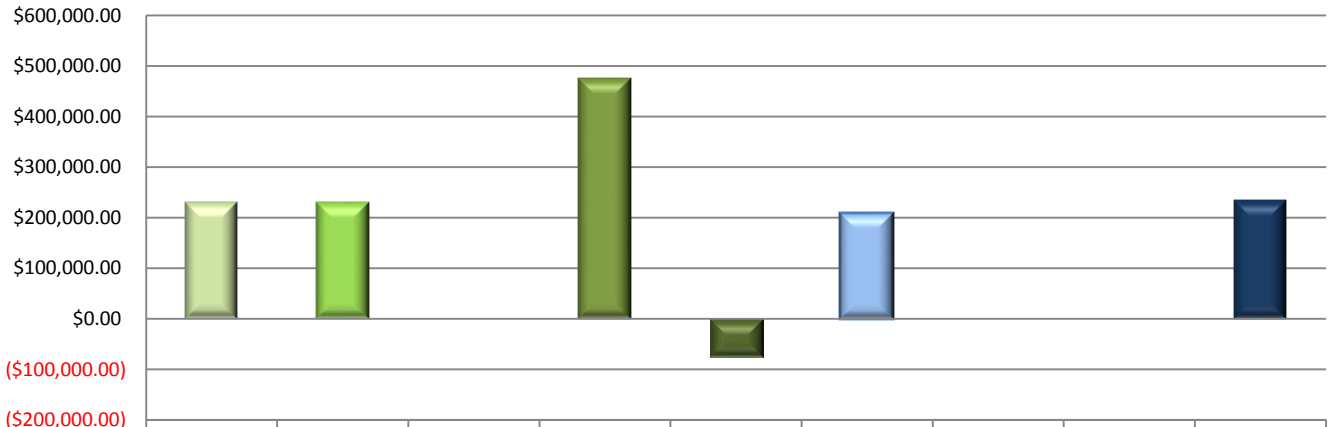

FY17 RESERVE EXPENSES & SINKING FUNDS
RESERVE FUTURE DEBT, 335,000 , 4%
RESERVE SINKING FUND CORPS, 30,500 , 0%
RESERVE SINKING SALEM BUCH, 100,000 , 1%
RESERVE FUTURE CAPITAL EXPENSE, 1,500,000 , 16%
RESERVE SINKING OTHER DIST, 100,000 , 1%
RESERVE INTEREST INCOME 45,000 , 1%
RESERVE SINKING OTHER DIST, 350,000 , 4%
NE Regional P.S. & FM, $500,000 , 5%
New Sludge Holding Building (3-yr), $300,000 , 3%
Reserve Capital Sinking Funds , $4,248,643, 41%
RESERVE FUNDS SEWER, 5,200,000 , 54%
Lift Station Replacement (On-going), $286,438 , 3%
RESERVE WATER, 400,000 , 4%
Water Plant Membrane Replacement (5-yr), $400,000 , 4%

REVENUE ITEMIZATION

Projected Department Revenue for FY17 totals $50,089,500, which is $6,870,000 more than the FY16 budget. This is mainly a result of:

1) An adjustment based on FY16 rate revenue to accommodate an approximate $3.5M exceedance in projected revenue received through water and sewer rates. The FY16 rate design and growth projections were estimated to yield $1.15M in increased revenue; the fact that this estimate tripled can only be attributed to more growth than expected. General Mills is using approximately 200,000-300,000 gallons per day more in calendar year 2016 versus calendar year 2015. The tap revenue that was collected over budget in FY16 supports the fact that residential and commercial growth is occurring above expectations.
2) The rate adjustments anticipated for FY17 yield approximately $1.3M in increased revenue; the sources of that increased revenue are broken down in the following chart:

Chart 1: FY17 Revenue Increase by Source w/ Anticipated Rate Design



	Sewer Revenue from Reduction in Min. Allowance or Raise Min. Bill	Sewer Revenue from New Growth	Sewer Revenue from Commodity Sales Increase	Sewer Enhanced Revenue from AMI	"Accessible" Sewer Commodity Revenue Lost	Water Revenue from Reduction in Min. Allowance or Raise in Min. Bill	Water Revenue from New Growth	Water Revenue from Commodity Sales Increase	Water Enhanced Revenue from AMI
FY17	$231,369.82	$231,627.90	$0.00	$476,569.97	($76,006.00)	$207,009.19	$0.00	$0.00	$234,379.98

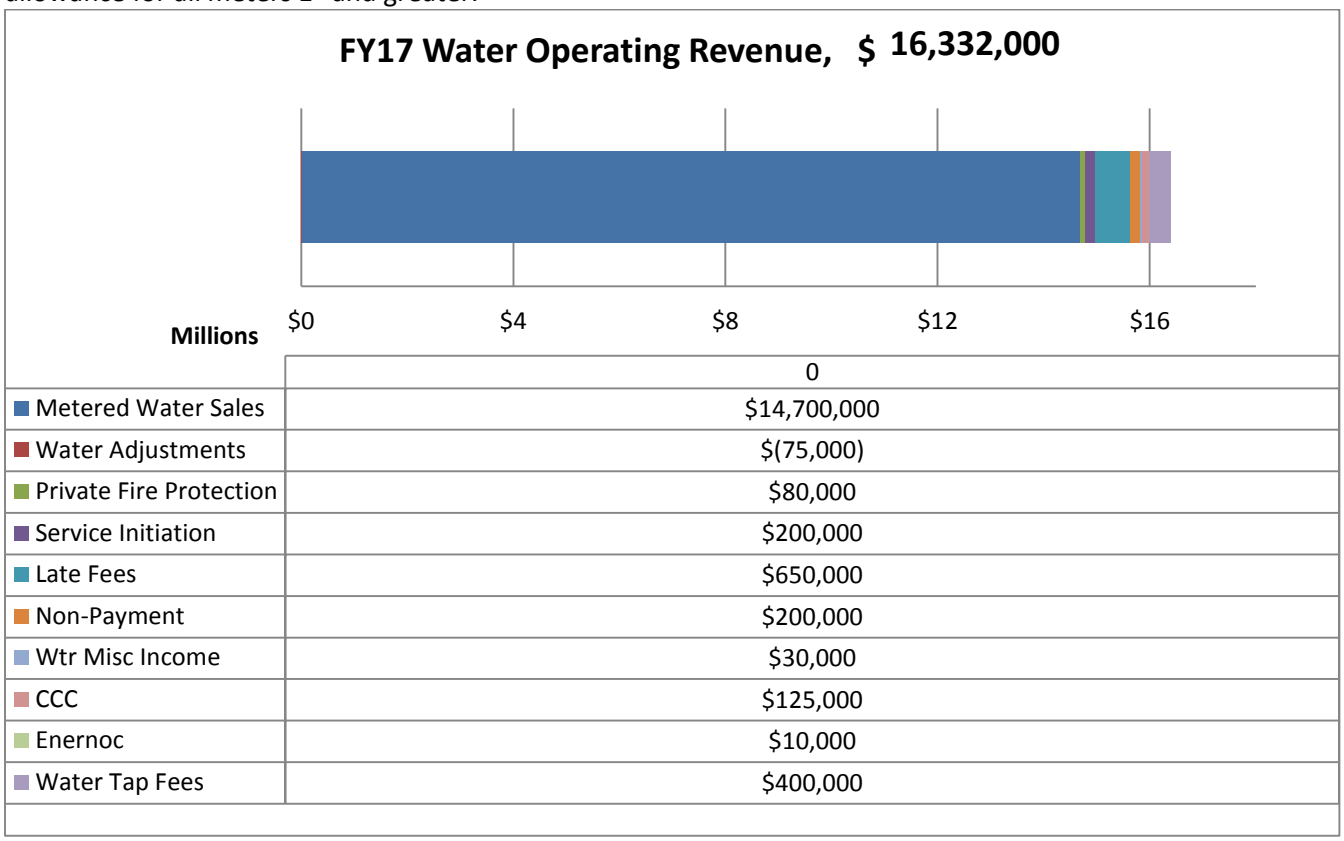
3) Staff has increased tap revenue associated with new growth by $1.5M. Tap revenue is simply being adjusted above what was budgeted for FY16. Tap revenue is a direct corollary to the level of development that occurs within MWSD's service area. All tap revenue is expensed to the Department's working capital reserves to fund future capacity projects or major repair and replacement projects.

A five (5) year rate design was initiated in FY14 to eliminate all minimum volume allowances covered by the minimum monthly bill over a five (5) year period. FY17 represents year four (4) of five (5) and as such, it is recommended the minimum monthly allowance for all meter sizes 1 " and above be reduced by fifty percent (50%) of their previous allowance. The minimum monthly monetary water charges for all meter sizes remain the same. The minimum monthly sewer charge for 5/8" is recommended to stay the same. The water rate is

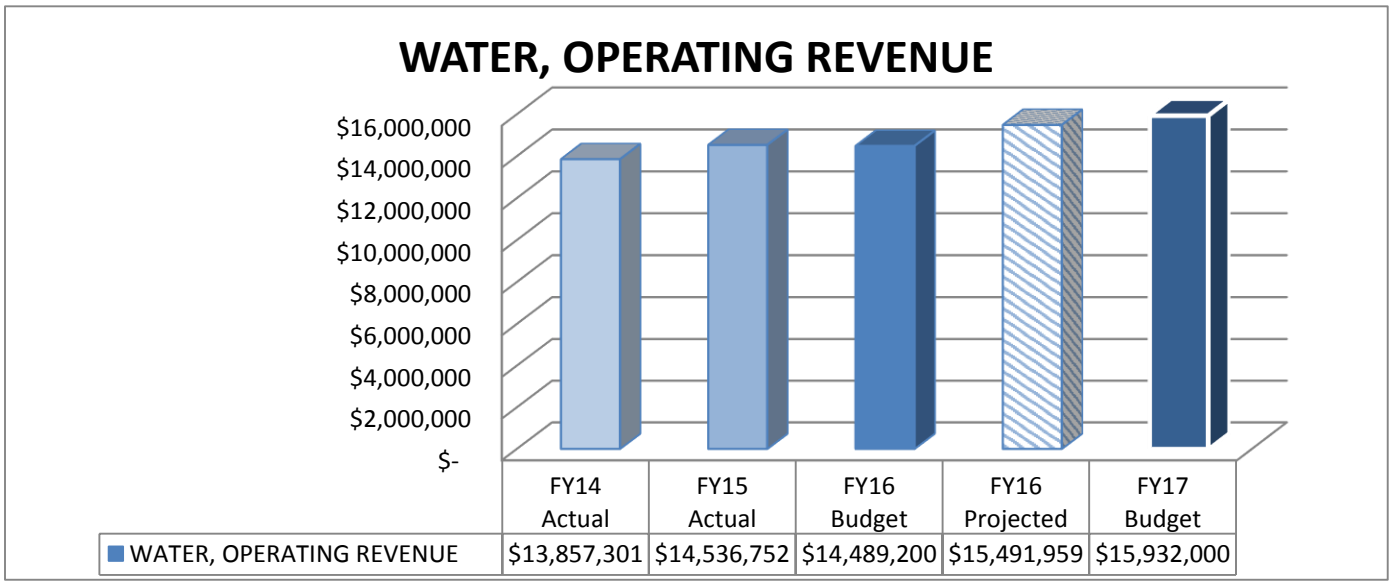
recommended to remain at $2.74 per 100 cubic feet. The Sewer Service Fee is recommended remain at $3.34 per 100 cubic feet and the Sewer Operation and Maintenance Fee is recommended to remain at 90 cents per 100 cubic feet. Residential customers or customers having a 5/8" meter will therefore experience no rate increase for FY17.

WATER REVENUE

Water Revenue at year end FY16 is projected to be higher than budgeted. It is estimated to be approximately $1,002,759 over FY16 budget. The recommended rate structure change and AMI accuracy is projected to increase revenue by $441,000 for FY17. This revenue increase is solely related to the reduction of minimum allowance for all meters 1" and greater.



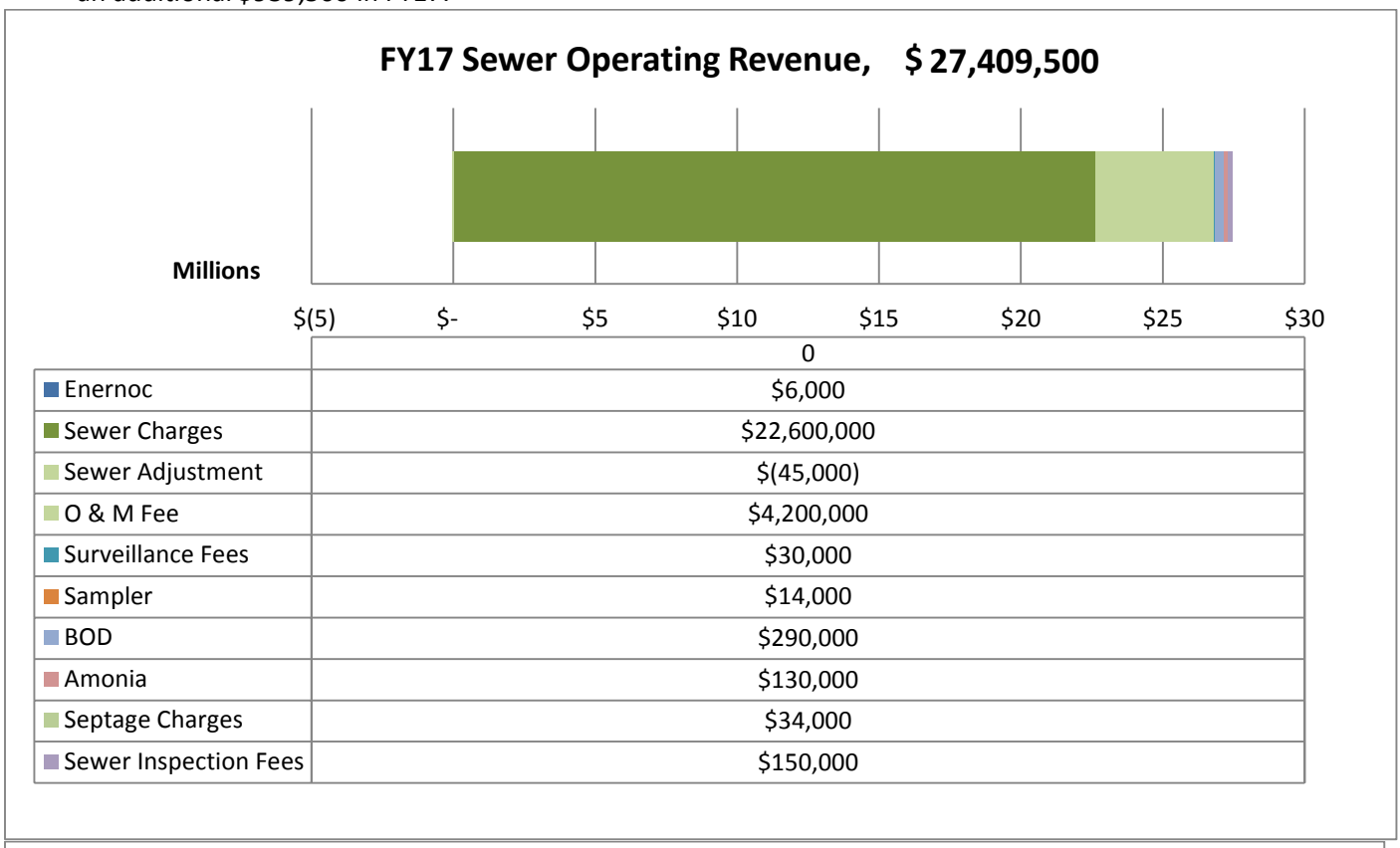
	0
Metered Water Sales	$14,700,000
Water Adjustments	$(75,000)
Private Fire Protection	$80,000
Service Initiation	$200,000
Late Fees	$650,000
Non-Payment	$200,000
Wtr Misc Income	$30,000
CCC	$125,000
Enernoc	$10,000
Water Tap Fees	$400,000



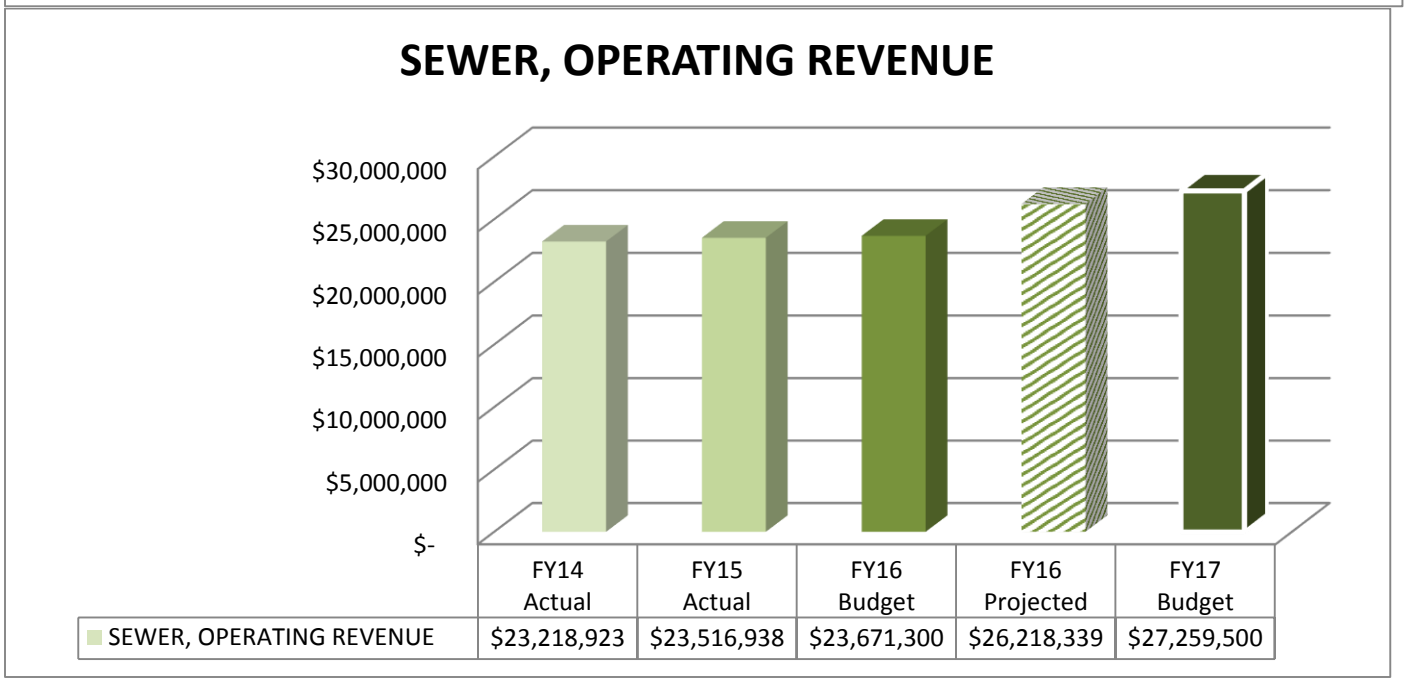
	FY14 Actual	FY15 Actual	FY16 Budget	FY16 Projected	FY17 Budget
WATER, OPERATING REVENUE	$13,857,301	$14,536,752	$14,489,200	$15,491,959	$15,932,000

SEWER REVENUE

Sewer Revenue at year end FY16 is projected to be higher than budgeted. It is estimated to be approximately $2,547,000 over FY16 budget. Growth, rate adjustments and AMI accuracy for sewer is estimated to generate an additional $939,500 in FY17.



	0
Enernoc	$6,000
Sewer Charges	$22,600,000
Sewer Adjustment	$(45,000)
O & M Fee	$4,200,000
Surveillance Fees	$30,000
Sampler	$14,000
BOD	$290,000
Amonia	$130,000
Septage Charges	$34,000
Sewer Inspection Fees	$150,000



	FY14 Actual	FY15 Actual	FY16 Budget	FY16 Projected	FY17 Budget
SEWER, OPERATING REVENUE	$23,218,923	$23,516,938	$23,671,300	$26,218,339	$27,259,500

REPURIFIED WATER REVENUE

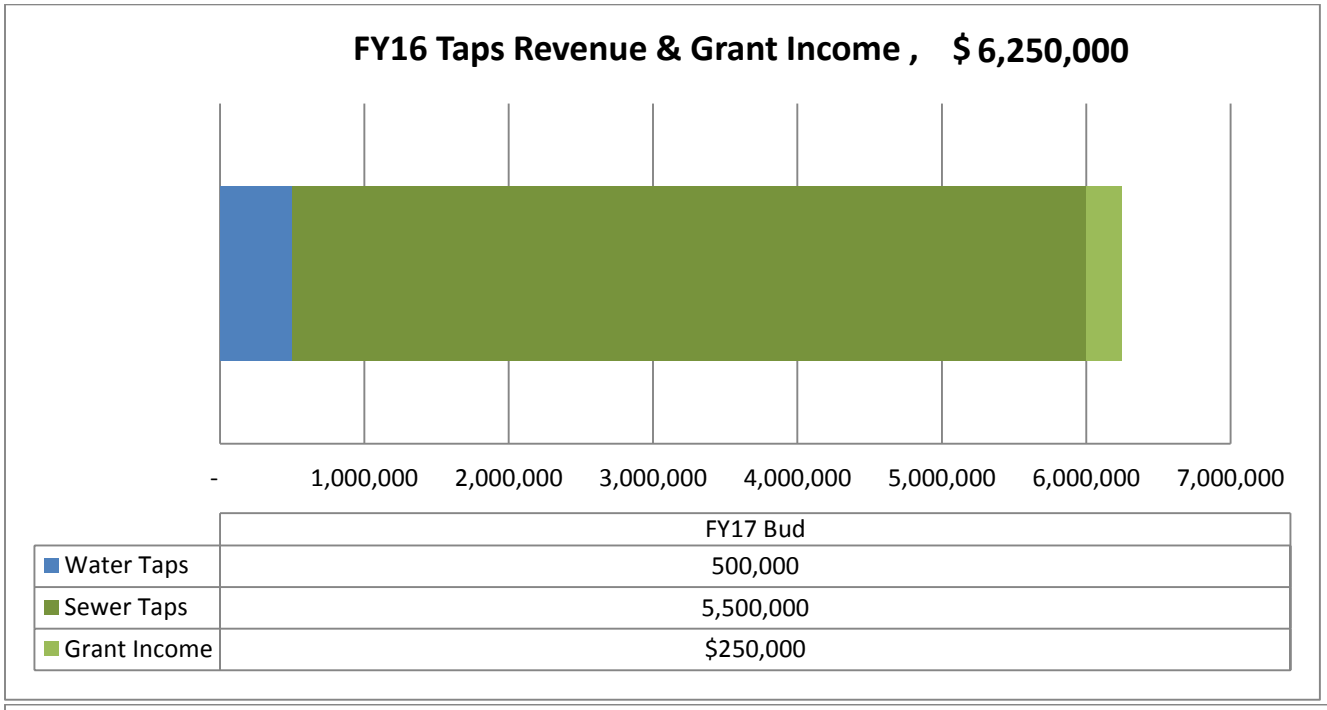
In an effort to reduce effluent discharge from the Sinking Creek Wastewater Treatment Plant, in 2006 MWSD began offering Repurified Water for irrigation purposes to portions of our service area. In addition to reducing necessary effluent discharge, repurified irrigation water also reduces the amount of water that the MWSD Water Treatment Plant must process and distribute. Rates for repurified water were set low (5¢ per hundred cubic feet) to encourage use by consumers. Consumption is budgeted to remain constant for FY17. Revenue from Repurified water sales is small compared to water and sewer sales. A cost of service study was performed on the repurified system for FY15. The study showed that the Department is only currently recovering approximately 4% of its expenses in delivering this commodity. However, this commodity is unique in that it is only used during the summer months and is considered "waste" in the winter months. The Department is seeking solutions regarding recapturing the cost to serve this commodity to its customers. Disposal of repurified water via irrigation or land application does allow more capacity for the discharge of effluent to the West Fork Stones River, so there is a capacity (i.e., sustainability) benefit that is not calculated in the "hard" numbers associated with the FY15 COSS.

Rate Revenue for FY15	$26,587
Cost of Service (Under-recovery)	$(661,550)
FY17 Budget Repurified Revenue	$28,000

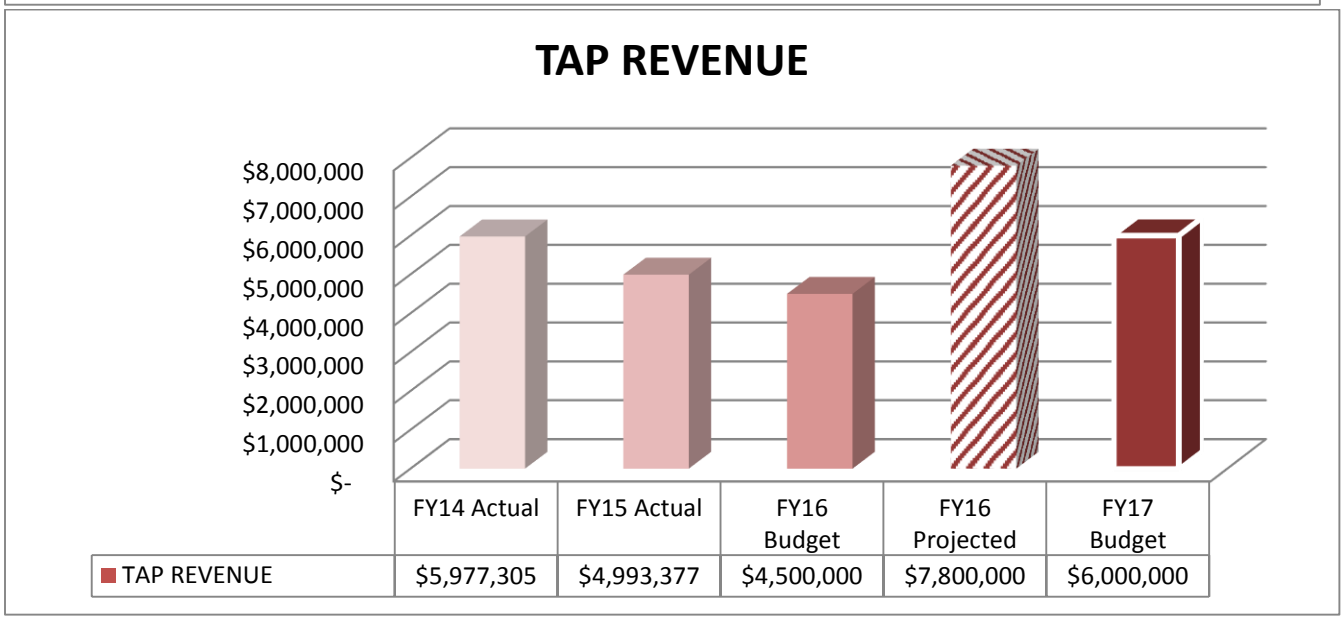
WATER TAPS / SEWER TAPS (SYSTEM DEVELOPMENT CHARGES)

FY17 water tap revenue is budgeted to increase approximately $200,000 above the FY16 budgeted amount. FY16 water tap fees are expected to be above budget by $500,000. All excess tap fees beyond labor and material costs associated with tap installation are reserved for future capacity enhancement.

Sewer tap revenue is projected below the expected amount of activity anticipated in FY16. FY16 sewer tap fees are expected to be above budget by $2,800,000. FY17 budgeted tap fees are $1,300,000 above FY16 budget and $1,500,00 below FY16 projections. All excess tap fees beyond labor and material costs associated with tap installation are reserved for future capacity enhancement.



	FY17 Bud
Water Taps	500,000
Sewer Taps	5,500,000
Grant Income	$250,000

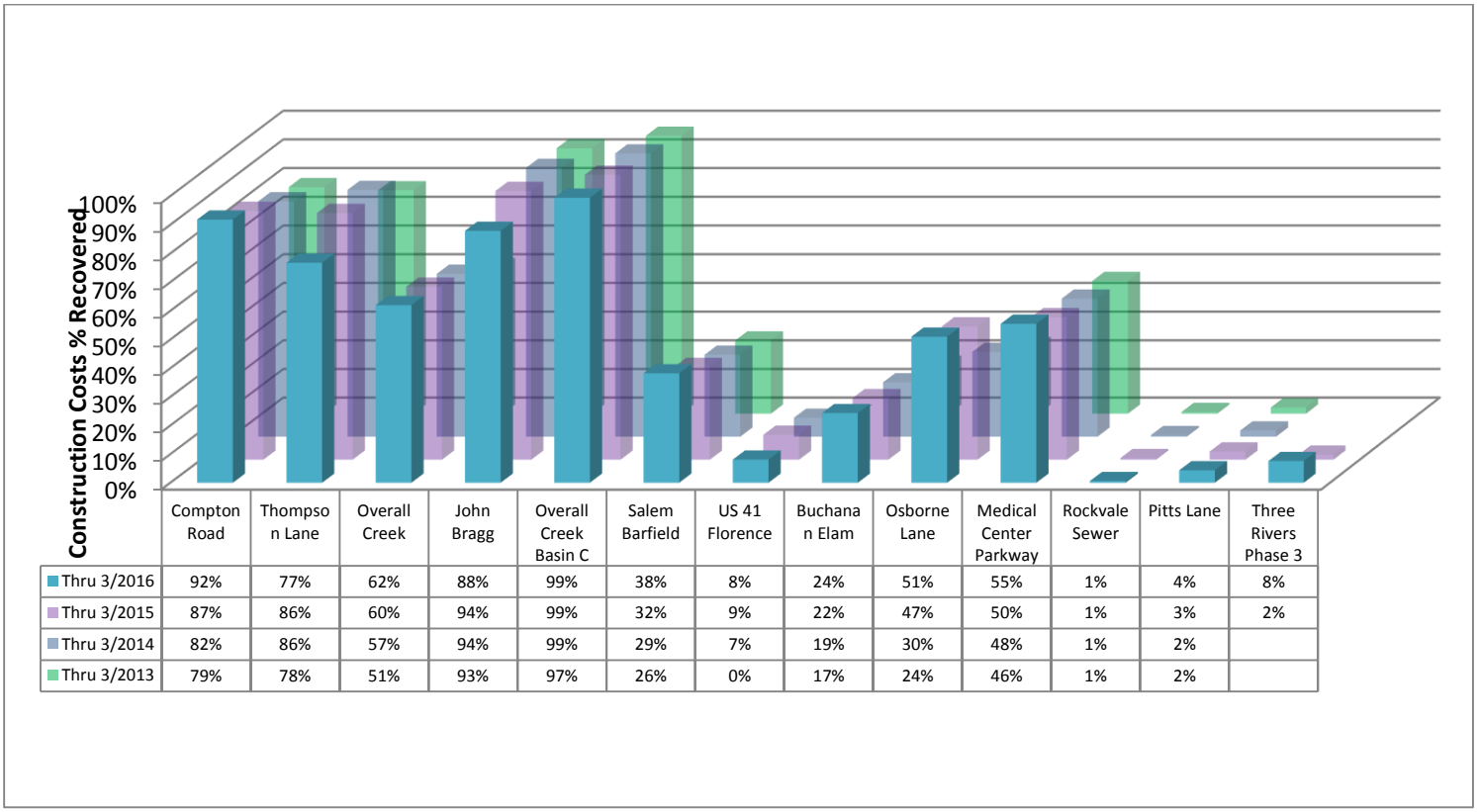


	FY14 Actual	FY15 Actual	FY16 Budget	FY16 Projected	FY17 Budget
TAP REVENUE	$5,977,305	$4,993,377	$4,500,000	$7,800,000	$6,000,000

SPECIAL ASSESSMENT FEES

Summary of Special Assessment Districts at March 31, 2016

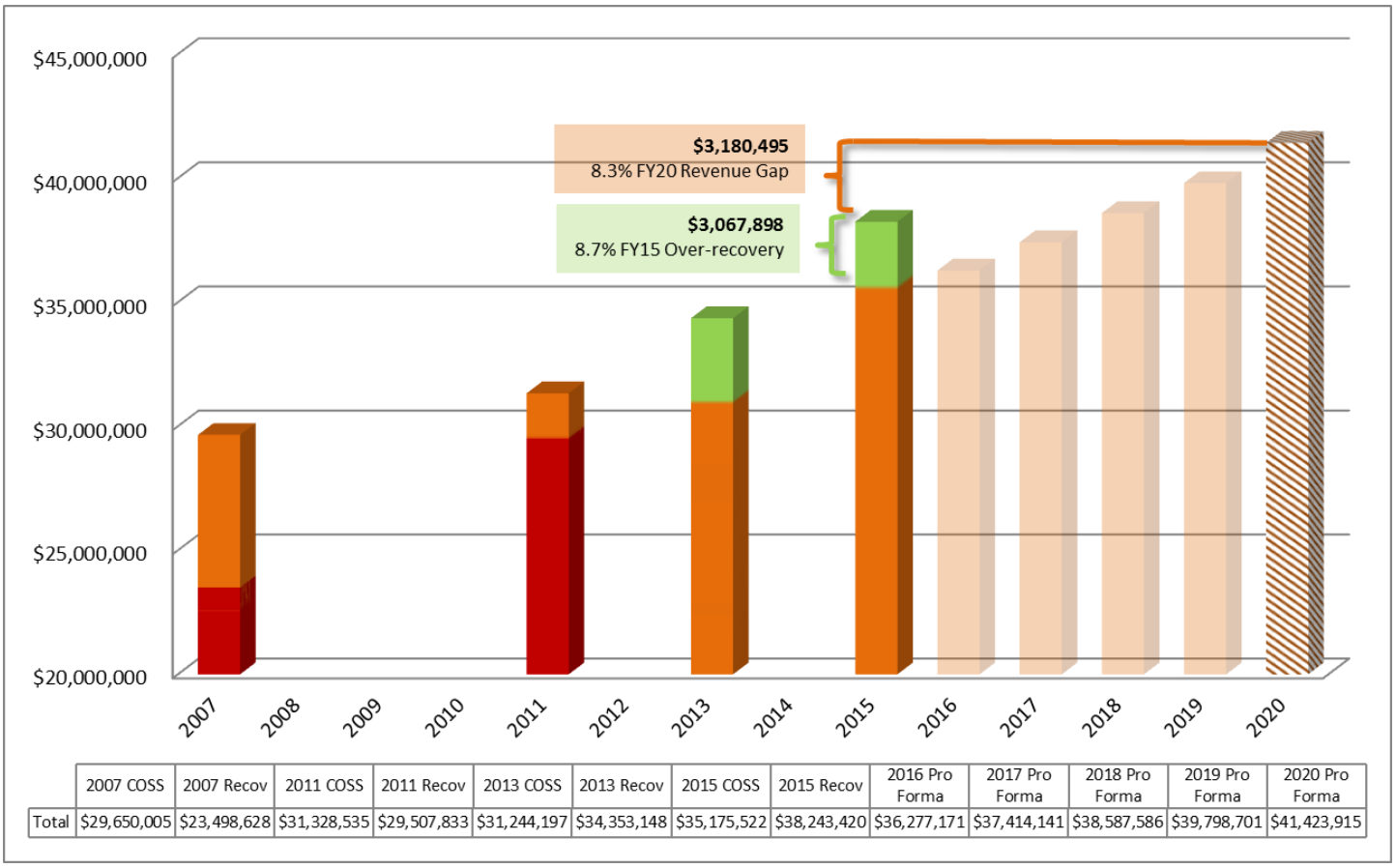
Assessment Districts	Inception Date	Actual Construction Costs	Unit Amount	Assessment As of MARCH 2016	Thru 3/2016
Compton Road	1994	$557,516.00	$300.00	$511,658.00	92%
Thompson Lane	1997	$1,000,000.00	$9,000.00	$767,244.00	77%
Overall Creek	1999	$18,218,700.00	$1,000.00	$11,286,133.00	62%
John Bragg	1998	$210,000.00	$4,000.00	$184,492.00	88%
Overall Creek Basin C	2000	$1,280,000.00	$1,280.00	$1,272,000.00	99%
Salem Barfield	2001	$2,920,664.00	$750.00	$1,115,227.50	38%
US 41 Florence	2001	$2,851,514.00		$229,796.00	8%
Buchanan Elam	2001	$4,701,959.00	$1,000.00	$1,142,998.00	24%
Osborne Lane	2001	$293,665.00	$2,500.00	$149,685.00	51%
Medical Center Parkway	2006	$3,099,400.00	$10,000.00	$1,718,953.50	55%
Rockvale Sewer	2006	$2,828,580.00	$1,550.00	$16,616.00	1%
Pitts Lane	2008	$324,400.00	$2,350.00	$14,100.00	4%
Three Rivers Phase 3	2014	$240,807.00	$900.00	$42,300.00	18%
Total		$38,527,205.00		$18,743,703.00	



	Compton Road	Thompson Lane	Overall Creek	John Bragg	Overall Creek Basin C	Salem Barfield	US 41 Florence	Buchanan Elam	Osborne Lane	Medical Center Parkway	Rockvale Sewer	Pitts Lane	Three Rivers Phase 3
Thru 3/2016	92%	77%	62%	88%	99%	38%	8%	24%	51%	55%	1%	4%	8%
Thru 3/2015	87%	86%	60%	94%	99%	32%	9%	22%	47%	50%	1%	3%	2%
Thru 3/2014	82%	86%	57%	94%	99%	29%	7%	19%	30%	48%	1%	2%	
Thru 3/2013	79%	78%	51%	93%	97%	26%	0%	17%	24%	46%	1%	2%	

Since July 2008 a rate strategy has been implemented to reduce the consumption allowance for a minimum bill over a five (5) year period. The consumption allowance was dropped to zero (0) July 1, 2013 (FY14) for 5/8" sized meters. This same year, meters 1" and larger minimum allowances started to be reduced over a five (5) year period. FY17 represents year four (4) of that five (5) year plan. Based on the FY15 Cost of Service Study (COSS) and FY20 Pro Forma developed by Jackson Thornton Financial Consultants, the following chart identifies the revenue deficit projected for the water and sewer enterprise funds as it relates to the over-recovery that was experienced in FY15.

Historical COS Studies and FY20 Pro Forma Revenue Requirements



	2007 COSS	2007 Recov	2011 COSS	2011 Recov	2013 COSS	2013 Recov	2015 COSS	2015 Recov	2016 Pro Forma	2017 Pro Forma	2018 Pro Forma	2019 Pro Forma	2020 Pro Forma
Total	$29,650,005	$23,498,628	$31,328,535	$29,507,833	$31,244,197	$34,353,148	$35,175,522	$38,243,420	$36,277,171	$37,414,141	$38,587,586	$39,798,701	$41,423,915

The table below illustrates where the revenue over the next five (5) years will be generated to cover the $3.2M revenue gap. Note that this table shows a total of $4,275,589 of revenue generated from the various sources described, while only $3,180,495 is required. I would qualify the revenue generated from new growth and enhanced revenue from the Advanced Meter Infrastructure (AMI) categories as assumptive. So I believe it prudent to continue with the decrease in the allowance reductions in the meters greater than 5/8" in FY17 and FY18, estimated to generate a secured $876,758. I believe it is also prudent to leave the minimum bill for residential accounts flat within this same time frame. A new cost of service study will be scheduled for FY17,

and the rate design can be adjusted accordingly at that time.

Fiscal Year	↑ Revenue Generated	Revenue from Reduction in Min. Allowance or Raise Min. Bill	Revenue from New Growth	Revenue from Commodity Rate Increase	Enhanced Revenue from AMI	"Available" Sewer Commodity Revenue Lost
July 1, 2015 (FY16)	$1,153,676	$676,591.19	$227,882.30	$0.00	$249,203.00	$0.00
July 1, 2016 (FY17)	$1,304,951	$438,379.01	$231,627.90	$0.00	$710,949.95	(76,006.00)
July 1, 2017 (FY18)	$1,498,227	$438,379.01	$235,373.50	$0.00	$900,480.35	(76,006.00)
July 1, 2018 (FY19)	$159,368	$0.00	$235,373.50	$0.00	$0.00	(76,006.00)
July 1, 2019 (FY20)	$159,368	$0.00	$235,373.50	$0.00	$0.00	(76,006.00)
TOTAL (5-yr period)	$4,275,589	$1,553,349	$1,165,631	$0	$1,860,633	(304,024.00)

The water commodity rate is recommended to remain at $2.74 per 100 cubic feet. The sewer commodity rate is recommended to remain at $3.34 per 100 cubic feet and the sewer operation and maintenance fee is recommended to remain at 90 cents per 100 cubic feet.

Proposed 5/8" Meter Water and Sewer Rate Increases for FY17 – Minimum Bill Estimates

	Cost of Service FY15	Current Rate FY16	**Proposed Rate FY17**	Pro Forma FY20
Water Min. Customer Charge	12.87	8.22	8.22	14.44
Water Commodity Charge ($/ccf)	2.11	2.74	2.74	2.51
Sewer Min. Customer Charge	23.49	9.72	9.72	27.85
Sewer Commodity Charge ($/ccf)	2.05	4.24	4.34	2.41
Total Min. Charge	36.36	17.94	17.94	42.29
Total Commodity Charge ($/ccf)	4.16	6.98	7.08	4.92
Average Monthly Bill (5,200 gal water; 4,800 gal sewer)	$62.98	$62.61	**$62.61**	*$73.78*
Increase from Current		$-0-	**$0.00**	*$11.17*

ORDINANCE 16-O-22 amending Chapter 33, Water and Sewers, Section 33-1 of the Murfreesboro City Code, dealing with minimum monthly water charges and minimum monthly sewer charges.

WHEREAS, the City of Murfreesboro should have water and sewer rates, fees and charges which will generate sufficient funds to retire indebtedness for existing and planned capital improvements of the Water and Sewer Department and to meet its normal operating expenses; and,

WHEREAS, the City of Murfreesboro Cost of Service Study and Pro Forma prepared by Jackson Thornton Utilities determined the water and sewer rates were insufficient in meeting the system's future revenue requirements; and,

WHEREAS, the Water and Sewer Board studied and decided to recommend these charges to the City Council on March 22, 2016.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF MURFREESBORO, TENNESSEE, AS FOLLOWS:

SECTION 1. Section 33-1, Water and Sewer Rates and Charges, of the Murfreesboro City Code is hereby amended at subsection (B) by deleting the table titled "Minimum Monthly Water Charges" in its entirety and substituting in lieu thereof the following:

MINIMUM MONTHLY WATER CHARGES

Meter Size	Charge*	Allowance, cubic feet
5/8 inch	$ 8.22	-
1 inch	19.18	60
1 1/2 inch	41.10	220
2 inch	65.76	400
3 inch	164.40	1,125
4 inch	328.80	2,330
6 inch	685.00	4,945

One Cubic Foot equals seven and one-half (7½) gallons
*Tax not included

SECTION 2. Section 33-1, Water and Sewer Rates and Charges, of the Murfreesboro City Code is hereby amended at subsection (G) in its entirety and substituting in lieu thereof the following:

(G) *Sewer rates*. Each customer served by sanitary sewer service shall be charged sanitary sewer service and operation and maintenance fees.

(1) *Sewer customers served metered water by a public utility*. The sewer rate shall be $3.34 per 100 cubic feet of metered water consumption ($0.0334 per c.f.) over the stated allowance per meter size. The minimum monthly bills applicable to all customers shall be based upon the following table:

MINIMUM MONTHLY SEWER USAGE CHARGES

Meter Size	Charge*	Allowance, cubic feet
5/8 inch	$10.22	-
1 inch	27.98	60
1½ inch	61.90	220
2 inch	100.06	400
3 inch	252.70	1,125
4 inch	507.10	2,330
6 inch	1,058.30	4,945

One cubic foot equal seven and one-half (7½) gallons.

* Not including O&M charge

In addition to the sanitary sewer service charge, each customer shall be charged an operation and maintenance fee equal to ninety cents ($0.90) per one hundred cubic feet of metered water usage.

(2) Each residential sewer customer utilizing an unmetered water supply shall be charged a flat monthly rate of nineteen dollars and seventy cents ($19.70). Flat monthly rates for other sewer customer charges utilizing an unmetered water supply shall be as determined by the Water and Sewer Board. Sewerage charges will be applied to all customers receiving sewer service.

(3) *Accessible sewer customers not connected to sanitary sewer*. Minimum monthly sewer usage charges will be applied to all customers whose properties have accessible sewer as defined in City Code §16-28 and §33-33(D) but who are not connected to the sanitary sewer. Customers not connected to the sanitary sewer will not be charged

consumption based sewer service charges or consumption based operation and maintenance fees.

SECTION 3. That this Ordinance shall take effect for bills printed on or after July 1, 2016 on its passage upon second and final reading, the public welfare and the welfare of the City requiring it.

Passed:

Shane McFarland, Mayor

1st reading _____

2nd reading _____

ATTEST:

Melissa B. Wright
City Recorder

APPROVED AS TO FORM:

Craig Tindall
City Attorney

SEAL

BILL AMOUNT FOR SELECTED RESIDENTIAL MONTHLY CONSUMPTION

		No raise in minimum bill or commodity rate				
		Proposed Rate 2016-2017				
		$2.74/100CF water, $3.34/100CF sewer Plus $0.90/100CF O&M				
Gallons	Cubic Feet	Water	Sewer	**Total**	**Increase**	**% increase**
		$8.22	$10.22	**$18.44**	**$0.00**	**0.00%**
748	100	$10.96	$14.46	**$25.42**	**$0.00**	**0.00%**
1,122	150	$12.33	$16.58	**$28.91**	**$0.00**	**0.00%**
1,496	200	$13.70	$18.70	**$32.40**	**$0.00**	**0.00%**
2,244	300	$16.44	$22.94	**$39.38**	**$0.00**	**0.00%**
2,992	400	$19.18	$27.18	**$46.36**	**$0.00**	**0.00%**
3,740	500	$21.92	$31.42	**$53.34**	**$0.00**	**0.00%**
4,047	541	$23.04	$33.16	**$56.20**	**$0.00**	**0.00%**
4,989	667	$26.50	$38.50	**$65.00**	**$0.00**	**0.00%**
5,236	700	$27.40	$39.90	**$67.30**	**$0.00**	**0.00%**
5,984	800	$30.14	$44.14	**$74.28**	**$0.00**	**0.00%**
6,732	900	$32.88	$48.38	**$81.26**	**$0.00**	**0.00%**
7,480	1,000	$35.62	$52.62	**$88.24**	**$0.00**	**0.00%**
9,971	1,333	$44.74	$66.74	**$111.48**	**$0.00**	**0.00%**
11,220	1,500	$49.32	$73.82	**$123.14**	**$0.00**	**0.00%**
14,960	2,000	$63.02	$95.02	**$158.04**	**$0.00**	**0.00%**
22,440	3,000	$90.42	$137.42	**$227.84**	**$0.00**	**0.00%**
24,931	3,333	$99.54	$151.54	**$251.08**	**$0.00**	**0.00%**
37,400	5,000	$145.22	$222.22	**$367.44**	**$0.00**	**0.00%**
44,880	6,000	$172.62	$264.62	**$437.24**	**$0.00**	**0.00%**
67,320	9,000	$254.82	$391.82	**$646.64**	**$0.00**	**0.00%**
89,760	12,000	$337.02	$519.02	**$856.04**	**$0.00**	**0.00%**
112,200	15,000	$419.22	$646.22	**$1,065.44**	**$0.00**	**0.00%**
149,600	20,000	$556.22	$858.22	**$1,414.44**	**$0.00**	**0.00%**

Note: The table above is the fee schedule for monthly consumptions associated with 5/8” or 3/4" water meters (tax not included).

RATE AFFORDABILITY

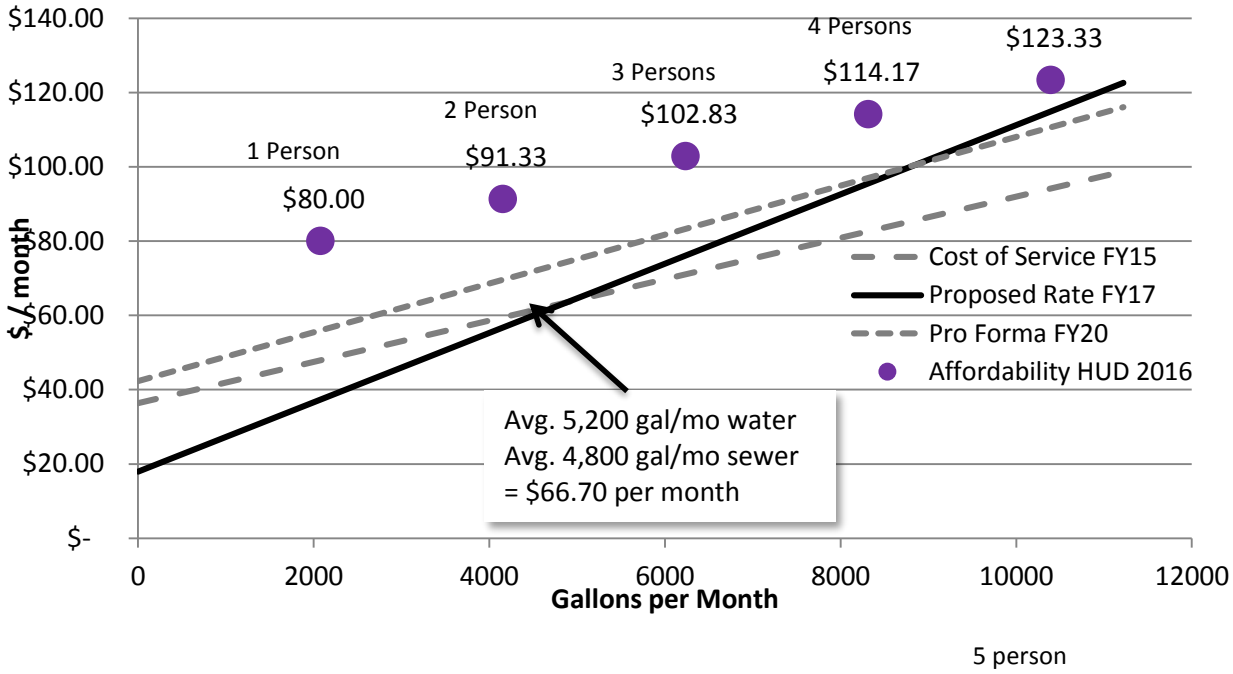
The Department seeks to maintain a target affordability ratio of 2.0% or less for water and 2.0% or less for sewer (combined 4.0%). This is measured by the dividing of the average annual residential bill by the median household income of the City. When setting rates and evaluating rate structures, the impact on low income customers, while assuring that cost of service principals are met, are considered.

The Safe Drinking Water Act (S.1547) established special assistance where the average residential water bill exceeds 2 percent of median income.

AWWA Research Foundation report entitled "Water Affordability Programs" suggest that programs should not be based on median income but rates that cause water bills to exceed 2 percent of income for impoverished households. Because of the focus on impoverished households, measure of the 2 percent was selected to determine if water costs were burdensome.

The FY17 proposed monthly cost of water, tax, sewer and stormwater is compared to the Threshold Limits for Affordable Housing Assistance Murfreesboro Community Development 2016 below. Based on the average of 2.5 people per household using 5,200 gallons per month of water and 4,800 gallons per month of sewer, the annual cost of water, tax, sewer and stormwater after July 1, 2016 is calculated as $842, or $70.17 per month. This expense is less than 4% of the very low income threshold of $94.92 per month, or $1,139 annually. In comparing one (1) person through a five (5) household, the affordability metric passes.

FY16 RATE DESIGN: *AFFORDABILITY* FOR RESIDENTIAL 5/8" METERS



RATES, FEES AND CHARGES OBJECTIVES

The Department's schedule of rates, fees, and charges are reviewed and adjusted, if necessary, on an annual basis to ensure that rate and revenue levels are adequately funding the overall goals and objectives of the Department and are reasonable and affordable. Rates and fees are established with consideration given to the following long-term rate setting objectives.

Rate structures should reflect fixed costs that don't vary with changes in water usage and production. They should also reflect variable costs, which do vary depending on the amount of water used or produced.

The following objectives provide a general framework which can be consistently applied to future water and sewer rate reviews. Because some policy objectives may unavoidably conflict with others, they should be

considered in their entirety to strike an appropriate balance among them when reviewing and establishing the Department's water and sewer rates.

1. Revenue Requirements: Rates shall be sufficient to meet the Department's revenue requirements, while striving to charge the lowest feasible cost to the customer over the long run.

2. Customer Payment of Cost-of-Service: The Department shall implement a system of rates, fees, and charges that effectively recovers allocated costs to customers in proportion to their responsibility for the costs incurred by the utility. Adherence to the cost-of-service principle (benefiting party pays) shall be a guiding philosophy.

3. Equity: Rates should reflect a fair apportionment of the various costs of providing service among different groups of customers served by the Department based on their differing service requirements.

4. Efficiency: Rates should provide incentives for cost effective use of facilities and conservation of water and efficient use and reuse of water resources.

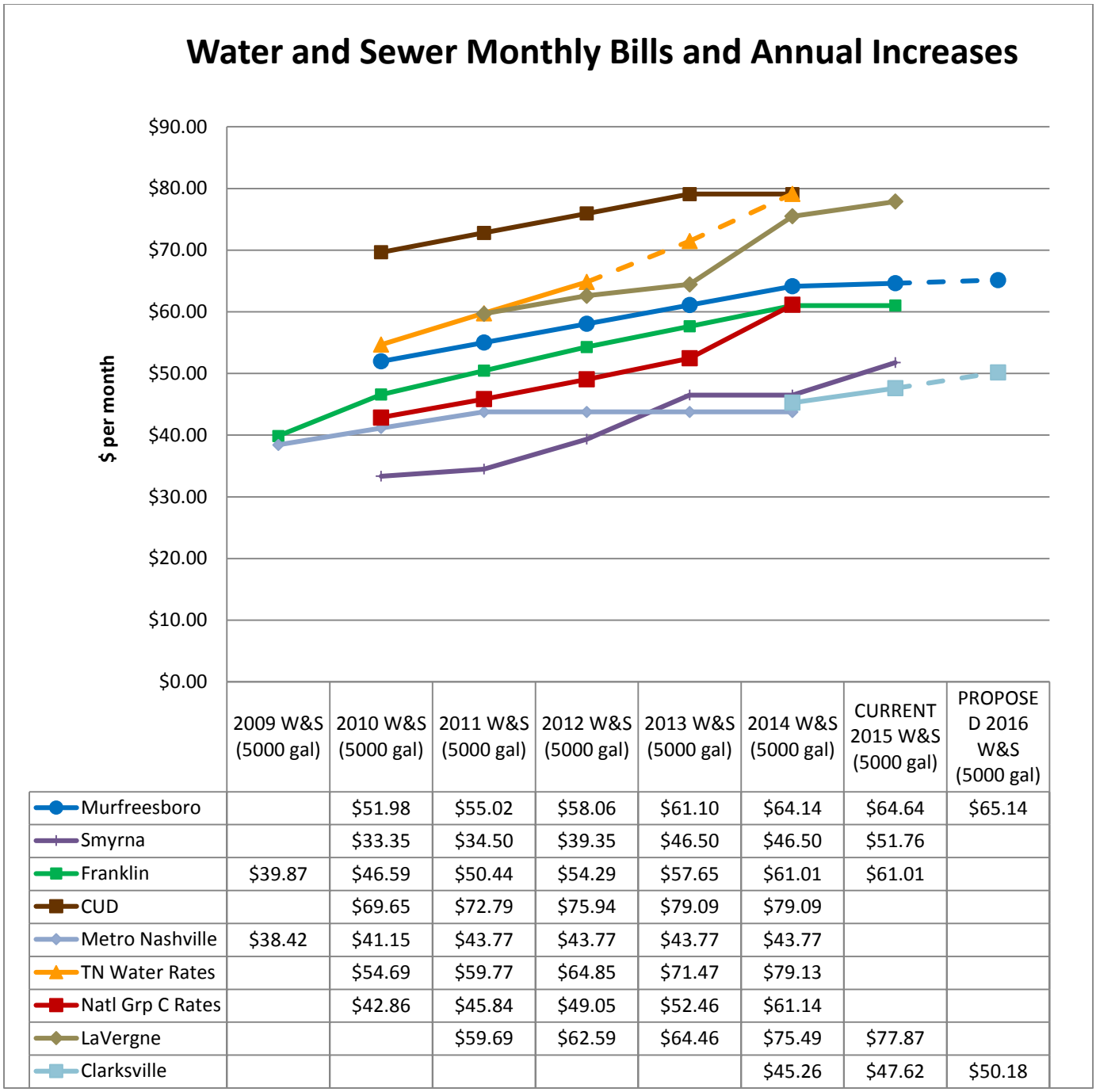
5. Rate Stability: Rate levels and structures shall be changed through gradual programmed implementation of rate adjustments.

6. Financial Stability: Rate levels and structures shall be sufficient in the recovery of costs to operate the system.

7. The Department will seek to maintain a target affordability ratio of 2 % or less for water and 2% or less for sewer (combined 4%). This is measured by the dividing of the average annual residential bill by the median household income of the City. When setting rates and evaluating rate structures the impact of on low income customers, while assuring that cost of service principals are met, will be considered.

8. Connection Fees: The Department shall collect connection fees and sanitary sewer district fees from new water and sewer customers. These charges are intended to recover costs associated with facility capacity expansions necessary to meet the new customer's water and sewer demands. These charges provide a method for dividing the cost burden of existing and planned facilities between old and new customers.

9. Periodically the Department shall consider using the services of a qualified independent consultant to conduct a comprehensive cost of service and rate study every two years.



	2009 W&S (5000 gal)	2010 W&S (5000 gal)	2011 W&S (5000 gal)	2012 W&S (5000 gal)	2013 W&S (5000 gal)	2014 W&S (5000 gal)	CURRENT 2015 W&S (5000 gal)	PROPOSED 2016 W&S (5000 gal)
Murfreesboro		$51.98	$55.02	$58.06	$61.10	$64.14	$64.64	$65.14
Smyrna		$33.35	$34.50	$39.35	$46.50	$46.50	$51.76	
Franklin	$39.87	$46.59	$50.44	$54.29	$57.65	$61.01	$61.01	
CUD		$69.65	$72.79	$75.94	$79.09	$79.09		
Metro Nashville	$38.42	$41.15	$43.77	$43.77	$43.77	$43.77		
TN Water Rates		$54.69	$59.77	$64.85	$71.47	$79.13		
Natl Grp C Rates		$42.86	$45.84	$49.05	$52.46	$61.14		
LaVergne			$59.69	$62.59	$64.46	$75.49	$77.87	
Clarksville						$45.26	$47.62	$50.18

EXPENSE BUDGET BY DIVISION

DIVISION SUMMARY

The Murfreesboro Water and Sewer Department (Department) is an enterprise fund of the City of Murfreesboro. The fund is managed to fully recover the expenses of providing services from users (as opposed to taxes) and to build and preserve a substantial, long lived capital asset base in the treatment facilities, water distribution and storage system, wastewater collection system and repurified water distribution and storage system. Because utilities have many characteristics of a business, business accounting and financial management rules are usually applied to enterprise funds. Because of this, the presentation of the Department differs from that of the City General Fund Budget.

The Department's aggressive maintenance and replacement programs result in a greater asset value. The Total Asset Value as of June 30, 2016 is $449,222,771. The Department financial and management model is to improve infrastructure each year, strive to provide excellent customer service, make knowledge-based decisions and stretch the dollar to get the maximum benefit and minimize waste.
The employees of the Department are dedicated to providing its customers with a bountiful supply of clean, safe water, sanitary sewer service and recycled water service in the most economical and efficient way possible. Stormwater permit management is also provided.

Water service is provided through approximately 26,696 meter connections within the Murfreesboro Water and Sewer Department water service area (35.54 square miles), and sanitary sewer service is being provided to areas served in the Consolidated Utility District water service area for an estimated additional 16,553 sewer only customers. There are 58.4 square miles within the city limits and 179.6 square miles within the Murfreesboro Urban Growth Boundary (UGB).

There are a total of 165 full time and 4 part time positions budgeted for fiscal year 2016. One employee has confirmed retiring effective August of 2016. There are three (3) licensed professional engineers, one (1) engineer-in-training, one (1) certified public accountant and fifty-four (54) employees with a Tennessee Certified Operators License for one or more of the following: water treatment, wastewater treatment, water distribution and wastewater collection system; ten (10) at the Wastewater plant, twenty-three (23) at Operations & Maintenance, and twenty-one (21) at the Water plant.

The Murfreesboro Water and Sewer Board held its first meeting on December 12, 1958. The first members consisted of C. B. Huggins, Herman O. Jones (Councilman), Jennings A. Jones, Sam Lasseter, and Fount Pitts. At that time, the Mayor was A. L. Todd, Jr., City Manager was H. L. McCullough, and Joe W. Lovell was Superintendent of the Water Department. The Director of the Department reports to the City Manager.

A seven member advisory board has the oversight of department policy and financial operations. The Board makes recommendations to the City Council. User charges provide the sole source of revenue for the Water and Sewer Department. No general tax base revenues are received, yet our rates are well below those of many of our sister utilities.

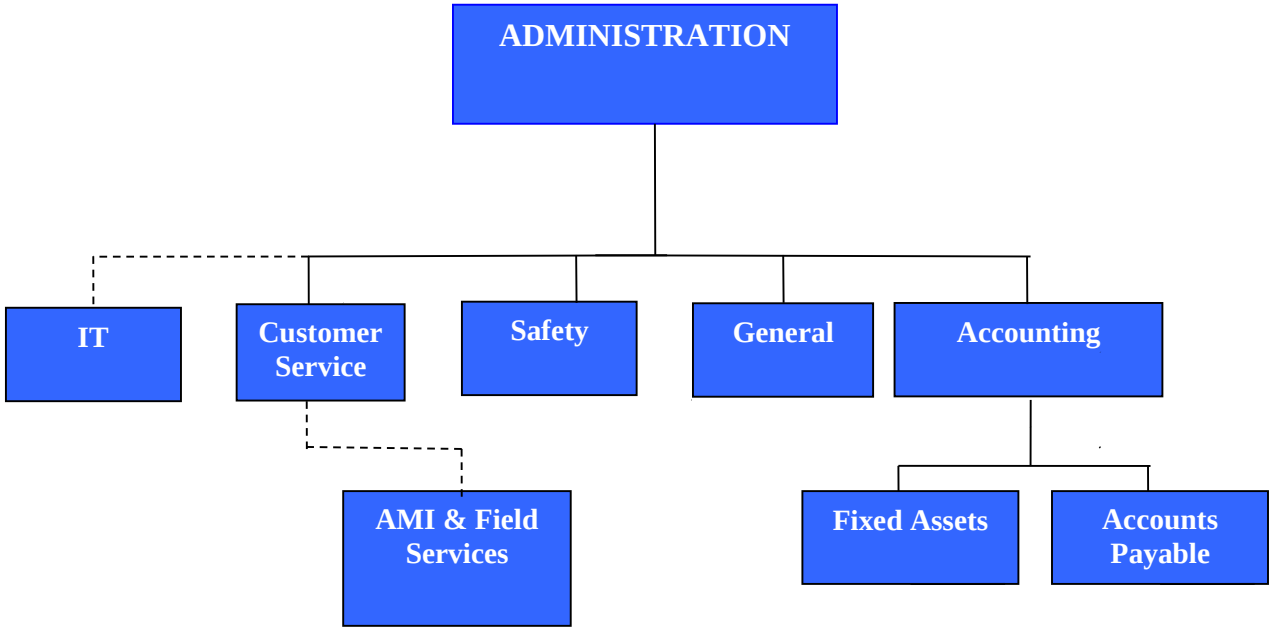
A recent comparison of total water and sewer monthly bills as compared to our neighbors indicates MWSD is not outside the market.

The Water and Sewer Board meetings are held on the fourth Tuesday of each month at 3:30 p.m., at 1725 South Church Street, Murfreesboro.

DIVISION SUMMARY

The mission of the Murfreesboro Water and Sewer Engineering Department staff is to provide adequate water, sewer and repurified water infrastructure for the citizens of Murfreesboro, to provide information regarding this infrastructure geographically through our GIS system and to meet the State of Tennessee's NPDES Stormwater permit requirements for MS4 Cities.

ORGANIZATIONAL CHART



IMPLEMENTATION OF COUNCIL PRIORITIES
SAFE AND LIVABLE NEIGHBORHOODS

- Reconfigure customer service office to provide better service to customer.
- Employee health and safety severity rate
- Training hours per employee

STRONG AND SUSTAINABLE FINANCIAL AND ECONOMIC HEALTH

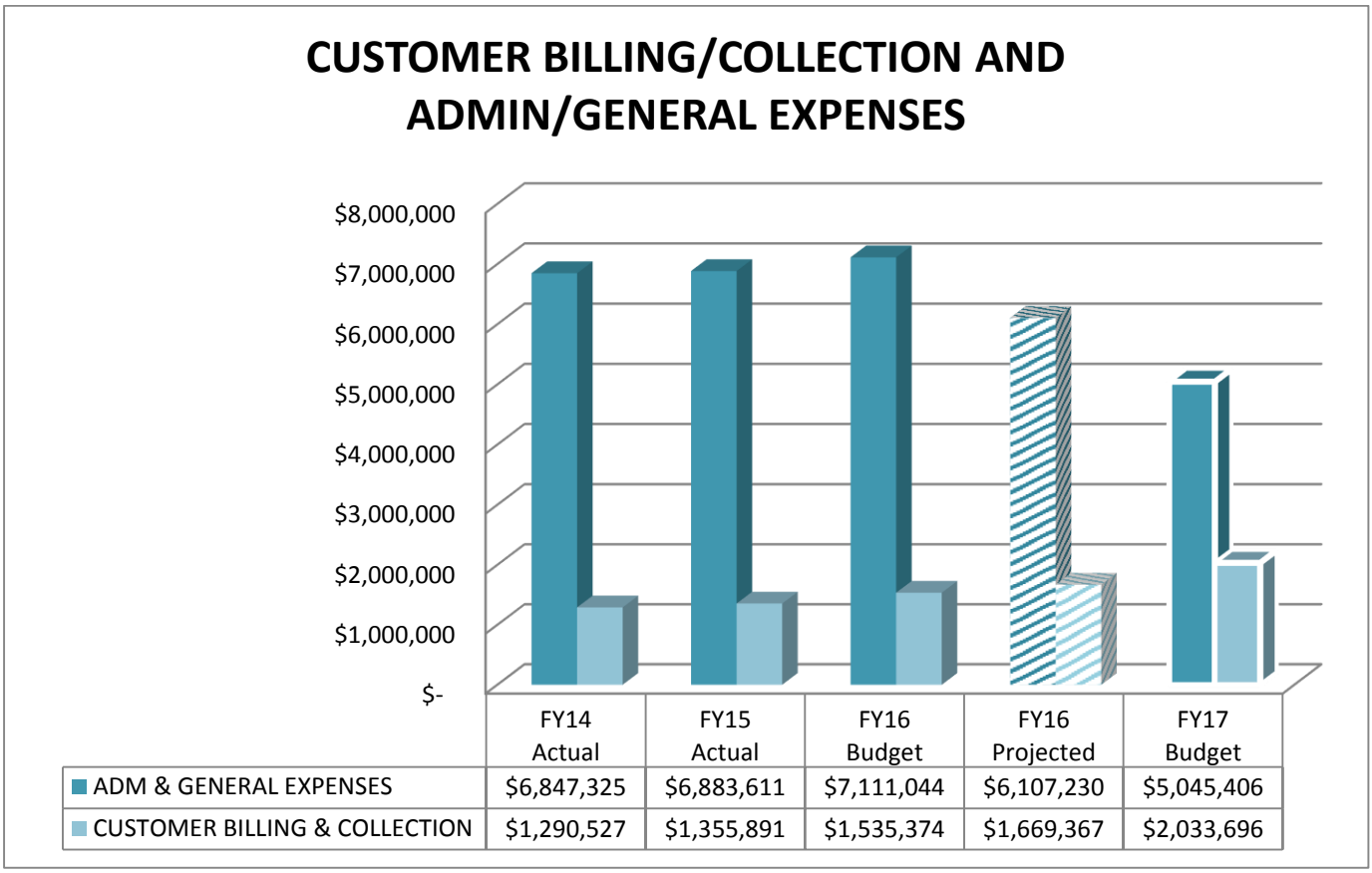
- Update financial reviews and conform to Financial Management Policies that were adopted on December 17, 2013.
- Maintain reserve funds to annual operating expenses
- Maintain a Debt Service Coverage Ratio of 1.2 or greater
- Perform a Cost of Service Study for year ending June 30, 2015

- Fund capital expenses related to road projects from reserve funds
- Acquire new general ledger software
- Fund $1.25 million annually for sewer rehabilitation
- Continue implementation of the adopted Water and Sewer Department Information Technology (IT) master plan

EXCELLENT SERVICES WITH A FOCUS ON CUSTOMER SERVICE

- Implement an Advanced Metering Infrastructure (AMI) (e.g., wireless radio reading of water meters), proactively engage customers primarily through early leak notifications.
- Remodel customer service offices to better serve the public
- Allow Customer interface to account history and usage through new CIS software
- Improve billing accuracy
- Voice and email messaging to customers

PROPOSED ADMINISTRATION, ENGINEERING AND CUSTOMER SERVICE BUDGET



	FY14 Actual	FY15 Actual	FY16 Budget	FY16 Projected	FY17 Budget
ADM & GENERAL EXPENSES	$6,847,325	$6,883,611	$7,111,044	$6,107,230	$5,045,406
CUSTOMER BILLING & COLLECTION	$1,290,527	$1,355,891	$1,535,374	$1,669,367	$2,033,696

DEPARTMENT SUMMARY

The mission of the Murfreesboro Water and Sewer Engineering Department staff is to provide adequate water, sewer and repurified water infrastructure for the citizens of Murfreesboro, to provide information regarding this infrastructure geographically through our GIS system and to meet the State of Tennessee's NPDES Stormwater permit requirements for MS4 Cities.

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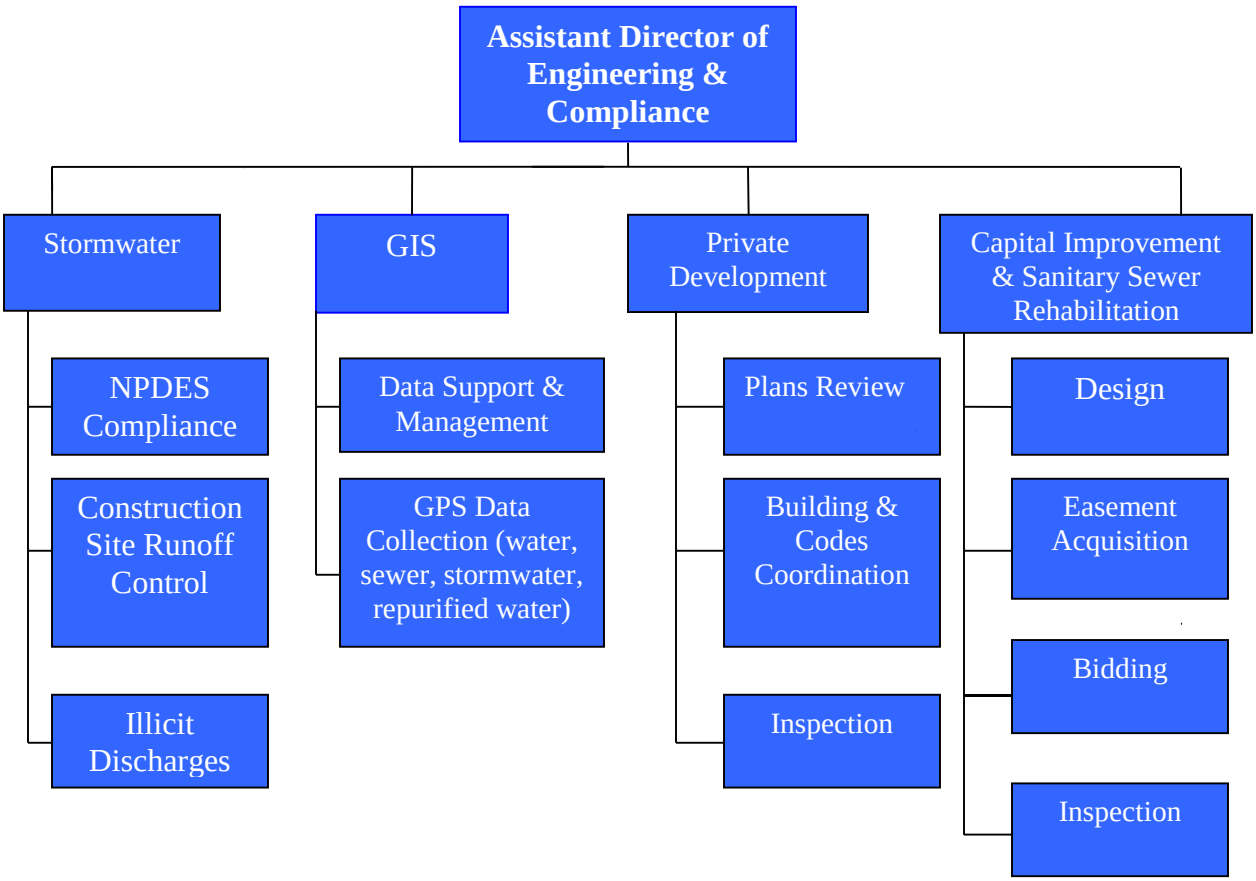


IMPLEMENTATION OF COUNCIL PRIORITIES
SAFE AND LIVABLE NEIGHBORHOODS

- Provide adequate water, sewer and repurified water infrastructure.
- Manage encroachments into easements to allow proper maintenance of infrastructure.
- To continue to upsize water mains to provide fire protection.
- Continue to upsize existing sewer infrastructure as development continues.

- To rehabilitate the existing sewer collection system to prevent back-ups and overflows.

STRONG AND SUSTAINABLE FINANCIAL AND ECONOMIC HEALTH

- Provide coordination of the City's and Murfreesboro Water and Sewer Department's Capital Improvement Program.
- Design and provide project management and construction inspection as necessary to strive to reduce the total cost of the Capital Improvement Program.
- To maintain a Closed Circuit Television database of the sewerage system to assist with the Operations and Maintenance of the sewerage system.

EXCELLENT SERVICES WITH A FOCUS ON CUSTOMER SERVICE

- Ensure prompt review and approval of private development construction plans for water, sewer and repurified water extensions to include coordination and explanation of the review and approval process with both engineers and developers.
- Provide water, sewer and repurified water connection fees for current projects under development within a timely manner.

FY 2016 ACCOMPLISHMENTS

- Completed construction of the Sinking Creek WWTP Expansion – Phase 4C (Headworks)
- Completed construction of the Southwest Regional Pump Station & Forcemain
- Completion of the NW Broad St. Pump Station Replacements
- Completed construction of the Water/Sewer Main Replacements in conjunction with the TDOT Broad & Memorial Interchange Improvements
- Advertised and Bid the DeJarnette Lane PS#13 Replacement
- Began design of the Ransom Drive Pump Station #09 & Gravity Sewer Replacement
- Continue construction of the Sinking Creek WWTP, Phase 4D – Expansion to 24 MGD
- Completed the Standard Construction Specifications for Sewer Rehabilitation
- Design and Bid and partial construction of the 2015-2016 Sewer Rehabilitation Project to include Dig & Replace of Gravity Sewer, CIPP, Sewer Service Lining and Manhole Rehabilitation.
- Easement Acquisition, Design & Bid of the S. Church St. Sanitary Sewer Extension and Sanitary Sewer Assessment District
- Easement Acquisition and Design of the Raleigh Court Pump Station Abandonment/Sewer Main Extension
- Completed numerous projects including the VA PS Pump Upgrade and replacement through the Mechanical/Electrical Services Contract
- Added Staff dedicated to Sewer Infrastructure Inspection Data/ CCTV Database Management (Engineering Support Specialist)
- Management of ADS Professional Services Contract for the maintenance of 19 Permanent Sanitary Sewer Flow Monitors and 7 Rain Gauges
- Completed Temporary Sanitary Sewer Flow Monitoring & Report of Flow Basins MF06, MF07 & MF03

- Provided State Review Authority and Professional Review and Inspection Services on all development projects. (Reviewed 79+ Projects, Approved 70+ Projects and Inspected 90+ Projects)
- Completed construction of the Water/Sewer Main Replacements in conjunction with the Lytle Street Reconstruction – Phase I project.
- Design, Bid and Began Construction of the Water/Sewer Main Replacements in conjunction with the Lytle Street Reconstruction – Phase II project from Barker to Church Street.
- Bid and Began Construction of the Middle Tennessee Blvd. Widening from East Main St. to Greenland Drive
- Recalculated non-residential Stormwater Fees for parcels in City Limits
- Created & maintained mobile/web applications with ArcGIS Online. Currently have 34 applications for 62 members consisting of 62 services. Created the following applications:
- Moved Customer Service maps from a Flex application to ArcGIS Online.
- Moved O&M staff from current employee map on computer to an employee map on ArcGIS Online.
- Created mobile application for public use.
- Created an AMI Route maps for customer service use.
- Created an AMI updates application for public use.
- Created an inspector's application to maintain records on project updates for engineering.
- Created a meter reader application to locate meters.
- Created a smoke testing application for rehab use.
- Created a stormwater vac truck application to coordinate work with street department application.
- Created a discharge points application for stormwater.
- Recreated the following PDF maps for public use in ArcGIS Online:
    - Assessment Districts
    - Hydrologic Features in the Urban Growth Boundary
    - Repurified Water System Capital Improvements
    - Stream Impairment Status
    - Water Service Area
- Maintained Facebook account for MWSD. Created 84 posts and received 227 likes.
- Maintained MWSD's web site with the City of Murfreesboro.
- Added AMI, Conservation and GIS Maps sections.

<u>Web Site</u>

- Maintain MWSD web pages.
- Added AMI, Conservation and GIS Maps sections.
- Assisted stormwater with re-organization of stormwater pages.
- Revised forms and documents as needed for department use
- Created Public Relations documents as needed for department.

<u>Stormwater GIS</u>

- Stormwater Control Sites mapped with inspection dates
    - Site indicator point and polygon (to quantify acreage of treated land – see Annual Report)
    - BMP site inspections dates added
    - Linkable fields to master BMP access database by project number (owner – Robert)

- Vac Truck Live editing (done by and with Karen)
  - Vac truck crew can edit and add comments to the lines they clear. They can add photos to features that have problems.
  - Problems can also be noted in the gravity main feature "DRIP" indicating they need repair by the DRIP program
  - VAC ID numbers up to date
- Watershed characteristics mapped and recorded
- Prepared GIS Data for further integration with CIS system & future city-wide technology improvements
- Further integrated GIS with CIS & taps purchasing process
- Used GIS data to facilitate AMI implementation
- Created SOP's for processes in GIS & CIS pertaining to New Account Set-Up
- Created 1,280 accounts (service locations) in GIS & CIS

FY 2017 DEPARTMENT GOALS

- Complete Construction of the Sinking Creek WWTP, Phase 4D – Expansion to 24 MGD
- Begin the Creation of the Water Resources Integration Plan
- Construction of the Raleigh Court Pump Station Abandonment.
- Easement Acquisition, Design and Bid of the Ransom Drive Sewer Pump Station & Gravity Sewer Replacement
- Complete Construction of the 2015-2016 Sewer Rehabilitation Project
- Begin Construction & Inspection of the Dejarnette Lane PS #13 Replacement
- Easement Acquisition, Design, Bid and begin Construction & Inspection of the Ranson Drive PS #09 & Gravity Sewer Replacement
- Continue Construction and Inspection of Water and Sewer Improvements in conjunction with the Middle Tennessee Boulevard Widening
- Continue Construction & Inspection in conjunction with the Lytle Street Roadway Realignment Phase II between Barker and Church Street.
- Easement Acquisition, Design and Construction by Operations & Maintenance the Abandonment of the Raleigh Court Pump Station (PS #06)
- Complete Construction of the S. Church St. Sanitary Sewer Extension and Sanitary Assessment District
- Continue to Design and Construct Water & Sewer Infrastructure Improvements in conjunction with the City's Annual Paving Efforts Utilizing the experience of Operations and Maintenance
- Complete the Construction of the 2015-2016 Sewer Rehabilitation project.
- Design, Bid and begin Construction of a 2016-2017 Sewer Rehabilitation project within the previous Temporary Flow Monitoring area
- Complete Temporary Flow Monitoring within Basins MF01 & MF10.
- Continue to Manage Sewer Inspection/Infrastructure Data through the CIMMS Software
- Continue to work with Operations & Maintenance to determine areas for Private Lateral Rehabilitation.
- Continue to Manage the ADS Professional Services Contract for the maintenance of 19 Permanent Sanitary Sewer Flow Monitors and 7 Rain Gauges

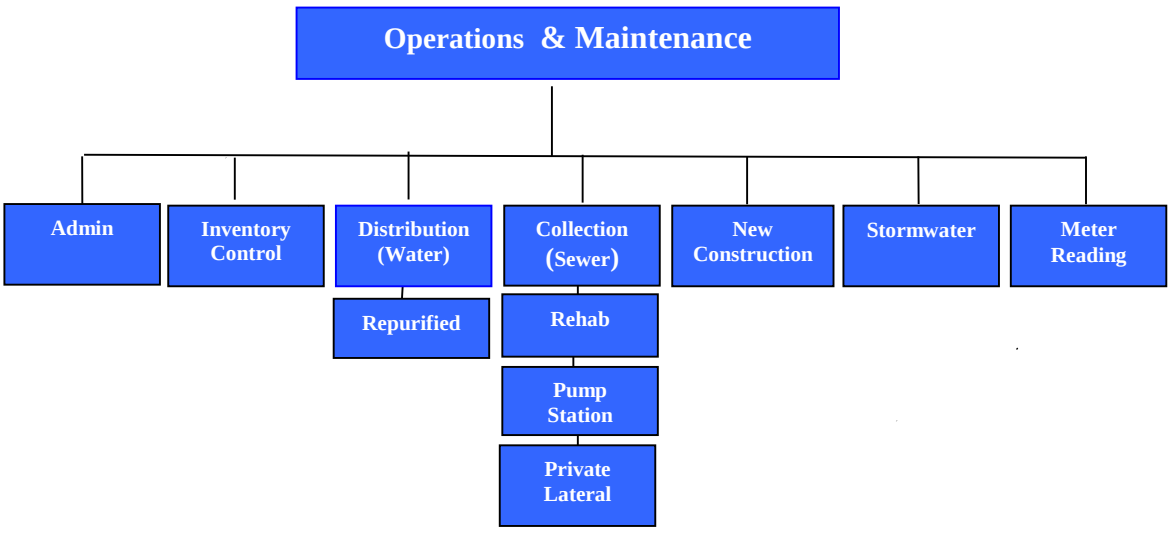
- Continue to provide State Review Authority and Professional Review and Inspection Services on all development projects.
- Recalculate non-residential Stormwater Fees for parcels in City Limits
- Create & publish metadata for all features in GIS
- Create mobile applications that can be viewed by the public. Examples are stormwater, general MWSD map, & possible citizen interaction using mobile devices.
- Continue to evaluate ESRI's Local Government Information Model and how it can be used for MWSD's GIS needs.
- Create & publish metadata for all features in GIS
- Link all COBOL based Tap Information to correct Acct records in CIS Infinity & retire historical COBOL Tap System (30% complete)
- Continue to use ArcGIS Online for department's web and mobile mapping needs
- Evaluate ArcGIS for Water applications, research & test applications use for department's needs
- Improve Accuracy of GIS Stormwater database
- QA/QC/Update Easements database to quality and accuracy of other GIS databases
- Create SOP's for standard GIS tasks
- Support all facets of business with GIS and database technology

DIVISION SUMMARY

The Operations and Maintenance division of the Murfreesboro Water and Sewer Department is an essential part of the department in that it encompasses many aspects of the management of sewer and water lines in the City. This includes maintaining existing water and sewer lines, installing new meters and sanitary sewer cleanout connections, repairing water main leaks and main sewer line blockages, as well as new construction projects such as replacement and installation of new main water lines and sewer lines throughout the City of Murfreesboro.

The Department sanitary sewer service planning area encompasses the present city limits as well as the area within the Murfreesboro Urban Growth Boundary (UGB) and certain drainage basins which are contiguous to the UGB and drain naturally into the UGB. The total planning area encompasses 203 square miles. This planning area was established as part of the 201 Facilities Plan Update in 2002. The wastewater collection system consists of 599.89 miles of gravity sewer (reflects an increase of 8.89 miles), 45 pumping stations with 29.28 miles of force main (increase of .21) and 14,459 manholes (increase of 323), and 185.5 miles of house service lines (increase of 4.5 miles).

ORGANIZATIONAL CHART



IMPLEMENTATION OF COUNCIL PRIORITIES
SAFE AND LIVABLE NEIGHBORHOODS

- In 2015, the department added 2.3 miles of new water lines for a total of 440.68 miles. CUD purchased the 16" water line along Broad St, and presently we provide and maintain 438.38 miles (an overall reduction of .12 miles) of high quality water service for all citizens of the City of Murfreesboro.
- Provide and maintain 24.99 miles of repurified water lines.
- Provide and maintain fire protection in order to maintain Class 2 fire rating; 3,386 fire hydrants (increase of 26).

- Insure well trained staff follows all public health procedures set forth by the TDEC and EPA.
- Certifications – Eighteen certified Grade II Operators in Collection/Distribution.
- Meters – 26,668 (increase of 156).
- Stormwater – 656.60 (increase of 7.60 miles).

STRONG AND SUSTAINABLE FINANCIAL AND ECONOMIC HEALTH

- Provide water and sewer service that meets all consumers needs along with maintaining an ISO Fire Rating Class 2.
- Continue to operate within the budget.

EXCELLENT SERVICES WITH A FOCUS ON CUSTOMER SERVICE

- Maintain and expand an infrastructure that provides water and sewer service that will attract businesses and residents.
- Provide immediate response to customers' complaints, along with maintaining all services to the consumers.
- Respond to citizen inquiries regarding other city services by directing them to the right department and follow up that they have been contacted by others.
- Continue to rehab the water and sewer infrastructure by replacing water/sewer main lines, updating house service connections including customers' sanitary sewer house services if criteria for replacement are met.

FY 2016/2017 DEPARTMENT GOALS

- Continue to replace infrastructure that will upgrade the distribution system that will provide a better quality of water along with providing fire protection to areas that are lacking.
- Continue to rehabilitate the sanitary sewer collection system in order to reduce inflow and help reduce the pumping and treatment process costs.
- Continue to maintain the approximately 1,278 miles of water, sewer, and repurified infrastructure at a high quality at the most economical cost possible to the consumer. (Increase of 17)
- Continue to purchase maintain 1.1 million of inventory and improve recent audit that is within 5/10 of 1 percent accuracy.
- Work with Street Department in maintaining 656.60 miles of stormwater system.
- Continue house service crew to repair and/or replace customer house sewer service at no charge to the customer if it meets the department's criteria.
- Continue to complete AMI Project.
- Total cleanouts installed:
    - 2013 - 669
    - 2014 – 743
    - 2015 - 780

BENCHMARKING MEASURES

- Provide at least 216 hours of educational training for Distribution II and Collection II Operators according to TDEC.
- Complete 8 hours of Blasting Training required by TN Department of Commerce and Insurance.
- Achieve a score of 100 on the Sanitary Survey. (Previous score 100).
- O&M has 18 certified operators and management will encourage additional employees to obtain the DS II and CS II Operator Licenses from TDEC.
- Continue Employee Involvement Program (EIP) to improve employee communication and customer service.

WATER TREATMENT PLANT

DIVISION SUMMARY

The Water Treatment Plant is charged with directing and conducting treatment, production and distribution of potable water for consumption; quality control and assurance through laboratory analysis of the potable water; the maintenance all plant facilities, storage tanks and equipment; flushing of distribution mains and dead-end lines; and identifying, detecting and preventing cross-connections to the potable water system. It is required to meet all federal and state regulations governing drinking water as regulated by the United States Environmental Protection Agency and the Tennessee Department of Environment and Conservation, Division of Water Resources under the Safe Drinking Water Acts.

The water treatment plant is located behind the Alvin York Veteran's Administration Hospital, at 5528 Sam Jared Road. The Stones River Water Treatment Plant has a treatment capacity of 20 million gallons per day. The recent expansion increased treatment and pumping capacity, added membrane filtration, granular activated carbon contactors, and standby power generation. The disinfection process changed from chlorine gas to sodium hypochlorite as the disinfectant. Treatment chemical feed systems were upgraded. The water quality laboratory facilities were also expanded. The sand filters, replaced by membrane microfiltration, were converted to granular activated carbon beds providing removal of taste and odors; pharmaceuticals and personal care products; and disinfection byproducts. The plant operates continuously producing an average of 11 million gallons per day, with a peak of 16 million gallons per day, of potable water. All of which meets or surpasses all state and federal drinking water regulations.

The primary water source is the East Fork of the Stones River with an alternative source at the J. Percy Priest Lake, both of which are classified as surface water supplies. The water system is interconnected with Consolidated Utility District of Rutherford County's potable water system in case of an emergency. CUD of Rutherford County also receives its raw water from J. Percy Priest Lake.

The Department's water service area encompasses 36 square miles. The water distribution system consists of over 438 miles of water lines and five elevated water storage tanks with a total storage capacity of 12 million gallons. All five storage tanks have standby power generation which allows the water treatment plant to control water in and out of the tank; monitor the telemetry systems; monitor the security system; and keep the wireless network operating in the event of a power outage.

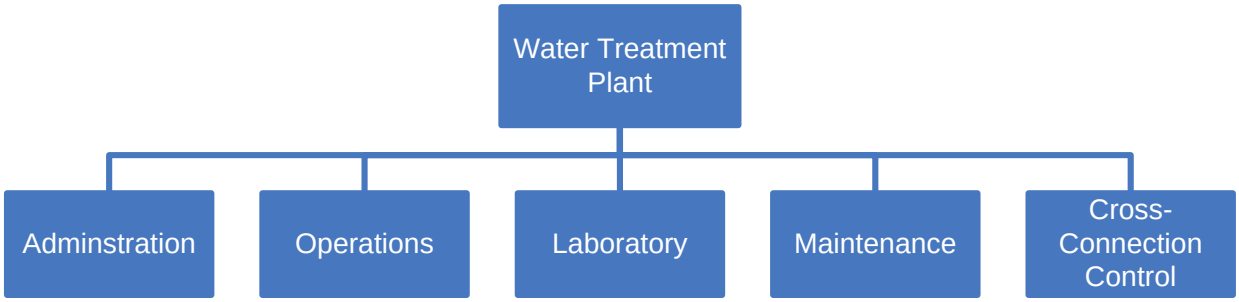
Murfreesboro maintains a Class 2, ISO Public Protection Classification for fire protection. The water system accounts for 40% of the score and the remaining 60% the Murfreesboro Fire Department. In the last rating survey the Water and Sewer Department scored 37.76 points out of a possible 40 for water supply toward the scoring for the classification.

In 2010, the Stones River Water Treatment Plant was recognized by the American Council of Engineering Companies of Tennessee with the 2010 Engineering Excellence Grand Award and the Kentucky-Tennessee Section American Water Works Association 2010 Award of Excellence for Plant Operations in the 10 million gallons per day and above category.

In 2014, the Stones River Water Treatment Plant became a member in the Partnership for Safe Water Treatment Plant Optimization Program. The Plant is going into its second year in the program.

In 2016, the Murfreesboro Water and Sewer Department received a 100%, 599 points out of 599, on the Tennessee Department of Environment and Conservation Water Resources Sanitary Survey.

ORGANIZATIONAL CHART



IMPLEMENTATION OF COUNCIL PRIORITIES
SAFE AND LIVABLE NEIGHBORHOODS

- Safeguarding public health and the environment through highly trained personnel dedicated to producing, analyzing and distributing high-quality drinking water.
- Safeguarding public health and the environment through the proper handling and disposal of chemicals.
- Safeguarding public health through a well-executed cross-connection control program designed to eliminate possible contamination of the System's drinking water.
- Safeguarding public health through a well-executed distribution flushing program designed to maintain high-quality drinking water.
- Safeguarding public health through a well-qualified staff trained in emergency response.

STRONG AND SUSTAINABLE FINANCIAL AND ECONOMIC HEALTH

- Provide an adequate supply of water and pressure for fire protection to maintain an ISO Class 2 fire rating.
- Provide high-quality drinking water that will attract and maintain businesses and residents.
- Provide sufficient quantity of water to meet customer's demands.
- Provide twelve million gallons of potable water storage.

EXCELLENT SERVICES WITH A FOCUS ON CUSTOMER SERVICE

- Maintain good communication and rapport with neighboring utilities.
- Provide an annual water quality report.
- Provide high-quality drinking water that will attract and maintain businesses and residents.
- Provide immediate response to customer complaints and inquiries.

FY 2016/17 DEPARTMENT GOALS

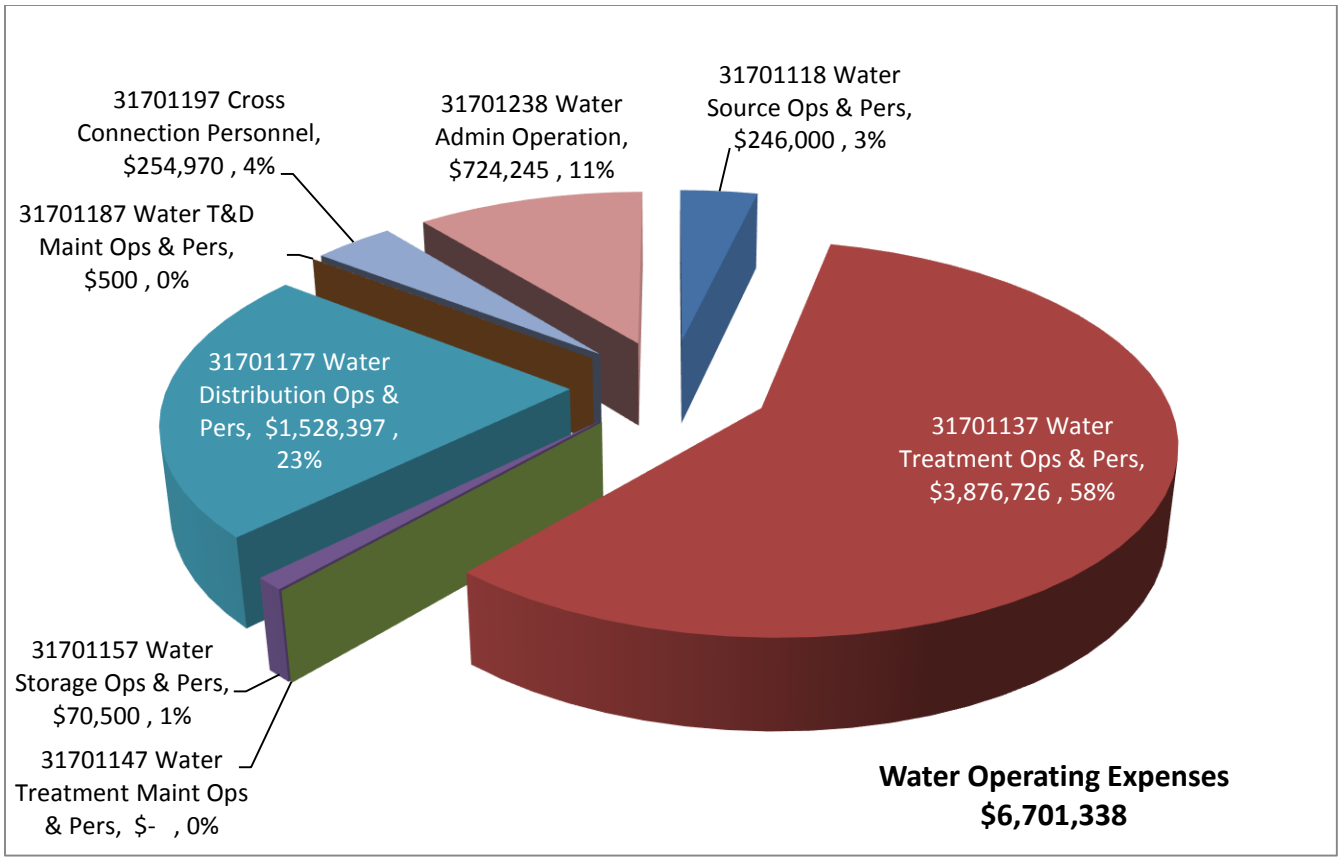
- Continue a program of ensuring all facilities have standby power to meet the System's need in the event of a major power outage.
- Continue strong emphasis on the development and training of employees to improve their knowledge, skills, and abilities, including professional certifications and safety requirements.
- Continue to efficiently and effectively operate the water treatment, laboratory, maintenance, and cross-connection control programs in full compliance with all federal and state regulations and requirements while providing high-quality drinking water to the Department's customers.
- Continue to improve energy conservation at all locations and participation in the EnerNOC program.
- Continue to improve information management and control systems.
- Improve customer awareness of cross-connections.
- Improve flushing program with the unidirectional flushing (UDF) program.
- Improve water quality in the distribution system through the addition of automatic flushing systems in critical areas.
- Maintain standard for a water treatment plant operators to achieve a TDEC Grade IV water certification within twenty-four (24) months from the date of being assigned as an operator.
- Provide timely analytical monitoring data for process control and regulatory reporting.
- Reduce disinfection by-products (DBPs) in the distribution system.
- Reinforce the teamwork approach required by Department employees to accomplish the Department's objectives.

BENCHMARKING MEASURES

- Achieve a score of ninety-nine (99) or above on the next Sanitary Survey.
- Achieve drinking water compliance rate of 100%.
- Achieve combined filter effluent turbidity of less than 0.10 NTU in 95 percent of all samples monthly based on values recorded at 15 minute time intervals.
- Maintain certification as a State Certified Laboratory in Chemistry and Microbiology.
- Maintain training hours per full-time employee at twelve (12) hours or more annually.
- Respond to 100% of customer complaints within 24-hours.

WATER LOSS

In accordance with TCA 7-82-702 and 68-221-1009a, the Utility Management Review Board and the Water and Wastewater Financing Board (Boards) have set an excessive water loss percentage at 30%. The Boards adopted the American Water Works Association (AWWA) water loss methodology for determinant water loss reported on financial statements.


31701197 Cross Connection Personnel, $254,970 , 4%
31701238 Water Admin Operation, $724,245 , 11%
31701118 Water Source Ops & Pers, $246,000 , 3%
31701187 Water T&D Maint Ops & Pers, $500 , 0%
31701177 Water Distribution Ops & Pers, $1,528,397 , 23%
31701137 Water Treatment Ops & Pers, $3,876,726 , 58%
31701157 Water Storage Ops & Pers, $70,500 , 1%
31701147 Water Treatment Maint Ops & Pers, $- , 0%
Water Operating Expenses
$6,701,338

DIVISION SUMMARY

In July of 2015 Sinking Creek received the **Operational Excellence Award** From the TN Water Environment Association.

The mission of the staff is to produce an excellent quality effluent by ensuring that pollutants and nutrients are removed from the wastewaters of the City's domestic and industrial customers in compliance with the City's Tennessee Department of Environment and Conservation (TDEC) issued National Pollutant Discharge Elimination System (NPDES) permit. The Sinking Creek Plant is the heart of an operation that begins with an expansive wastewater collection system which is maintained by a lift station crew and is regulated via a Pretreatment program and a Fat, Oils, and Grease (F.O.G.) program. The operation's process is complete when the high quality effluent is either discharged into West Fork Stones River or put to beneficial reuse. The reuse portion of the operation includes an expanding network of over 25 miles of reuse water lines, public irrigation sites, two Department owned farms totaling over 600 acres, and two storage towers with a combined capacity of two million gallons.

The Plant, located at 2032 Blanton Drive, was constructed in three phases beginning in 1995. The final phase was commissioned in May of 2000. It has a permitted design flow capacity of 16 million gallons per day (MGD). Within two years, the plant's capacity will be expanded 50% to provide for the City's rapid growth. For the year ending December 31, 2015 the annual average daily flow into the plant was 17.2 MGD and the annual average daily discharge was 14.1 MGD with the difference going to beneficial reuse. The maximum instantaneous flow recorded during this time, 40.7 MGD, occurred during wet weather on December 26th. 40 MGD is the plant's maximum hydraulic capacity.

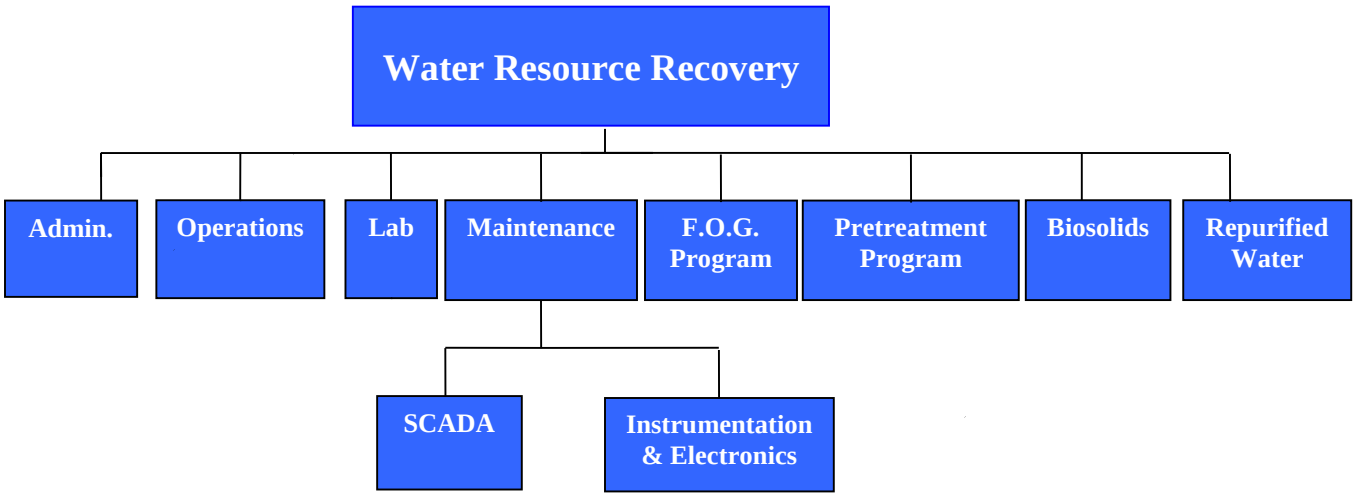
Sinking Creek provides primary treatment of the influent flow through the use of fine rotating and step screens and a vortex grit removal process. Secondary treatment is a carefully controlled multi-stage biological process that includes various microorganisms metabolizing ammonia ultimately into Nitrogen gas and other microorganisms accumulating Phosphorus. This takes place in anoxic basins for denitrification, oxidation ditches which utilizes an extended aeration process for nitrification and four two million gallon final clarifiers. The effluent from the biological process is then passed through eight deep-bed sand filters for the removal of remaining fine solids. The filter effluent flow stream is disinfected using an ultraviolet light process and lastly is oxygen enriched by submerged aerators.

The effluent water quality is monitored by the plant's laboratory staff and reported to the appropriate agencies at the State and Federal levels. The plant's receiving stream has been categorized as an impaired water body on the Tennessee 2008 Draft 303(d) list due to nitrates and siltation. During the summer, the river flow can get as low as 200,000 gallons per day, less than 2% of the plant's average daily discharge. As a result, the NPDES permit that became effective July 1, 2012 includes new very strict limitations on the average daily pounds of Nitrates, Nitrites, and Phosphorus that may be discharged into the river.

The professional staff is dedicated to progressively providing excellent services to the City and its citizens through continuous improvement and unquestionable integrity. The staff is constantly striving to safely and cost effectively operate as an authentic team of experts within a learning organization.

In 2001 the Sinking Creek Wastewater Treatment Plant was recognized by the Greater Nashville Regional Council with the Local Government award for Excellence in Water/Wastewater Facilities and by the American Council of Engineering Companies of Tennessee with the Engineering Excellence Award. In 2011& 2015 the plant received the Tennessee's Beneficial Reuse of Effluent Award from the Kentucky-Tennessee Water Environment Association. Sinking Creek has achieved a Wastewater Effectiveness rate of 100% (zero compliance violations) and will receive the Operational Excellence Award in July 2016 at the Kentucky/Tennessee Water Professionals Conference for the fourth year in a row. In January on 2015 Sinking Creek received the Outstanding Performance Award (or "Plant of the Year" as it's known) from The Tennessee Water and Wastewater Association. This level of product quality ensures that all downstream users and aquatic life are safe and free to enjoy the West Fork Stones River every day of the year.

ORGANIZATION CHART



IMPLEMENTATION OF COUNCIL PRIORITIES
SAFE AND LIVABLE NEIGHBORHOODS

- Safeguarding neighborhoods and the environment through the employment of a highly trained staff of scientists, master electricians and mechanics, management information systems specialist, and treatment experts dedicated to producing high-quality effluents.
- Safeguarding public health through personnel that is trained and ready to respond to a variety of emergencies in the workplace and in the community.

STRONG AND SUSTAINABLE FINANCIAL AND ECONOMIC HEALTH

- Progressively planning in order to accommodate and attract economic opportunities.
- Sustaining adequate capacity to meet wastewater customers' treatment needs.
- Providing sufficient repurified water to meet customers' needs without any service interruptions.

EXCELLENT SERVICES WITH A FOCUS ON CUSTOMER SERVICE

- Providing a high quality product that will attract repurified water consumers.
- Maintaining professional pretreatment services that are attentive to current industries and welcoming to new and prospective industries.
- Providing immediate, friendly response to customer inquiries and first call resolution to complaints.

ENGAGING OUR COMMUNITY

- Maintaining good communication and rapport with neighboring utilities.
- Conduct facility tours to promote stakeholder understanding and civic engagement.

FY 2017 GOALS

Operations

- Maintain operational excellence with a 100% wastewater effectiveness rate.
- Continue construction of 4D plant expansion.
- Prepare for the smooth transition to new UV technology.
- Encourage all plant operators to become TDEC Grade IV Wastewater Treatment certified.
- Encourage all Master Operators to get Professional Operator certification.
- Encourage all Master Operators to get Collection System Operator certification.
- Maintain a continuing education program designed to ensure a highly trained, expert staff.
- Continue to optimize new headworks building with step screen technology.
- Maximize efficiency of chemical usage.

Biosolids

- Install three new Fournier presses in anticipation of higher dewatering demand due to increasing denitrification and potential chemical coagulant phosphorus removal.
- Continue to optimize polymer usage while meeting landfill and environmental standards.
- Research various alternative for the production of Class A Biosolids.
- Train staff for possible seven days per week operations.

Laboratory

- Continue to meet all requirements mandated by NPDES operating permit.
- Continue history of successfully passing DMR- QA analysis.

Pretreatment Program

- Maintain an effective pretreatment program by ensuring industrial process wastewater is sufficiently pretreated to meet all local and State permitted limits.
- Require all permitted industries to comply with local ordinances and to be held financially accountable for process wastewater that is above domestic strength.
- Maintain a good rapport with all industrial users.
- Serve new and potential industrial customers.
- Continue to operate an effective septage receiving program

F.O.G. Program

- Continue to positively interact with commercial food services customers in a courteous and professional manner in order to ensure that all are actively engaged in the F.O.G. Program.
- Increase quality control measures for grease control equipment services.
- Continue exploring and utilizing best methods, processes and solutions available to reduce F.O.G. accumulations in the collections and wastewater treatment systems.

Maintenance

- Plan ahead for increased requirements due to plant age and growth.
- Further develop and utilize the Computer Maintenance Management System.
- Improve preventative and predictive maintenance measures.
- Perform a system wide asset condition assessment to gauge operational resiliency.

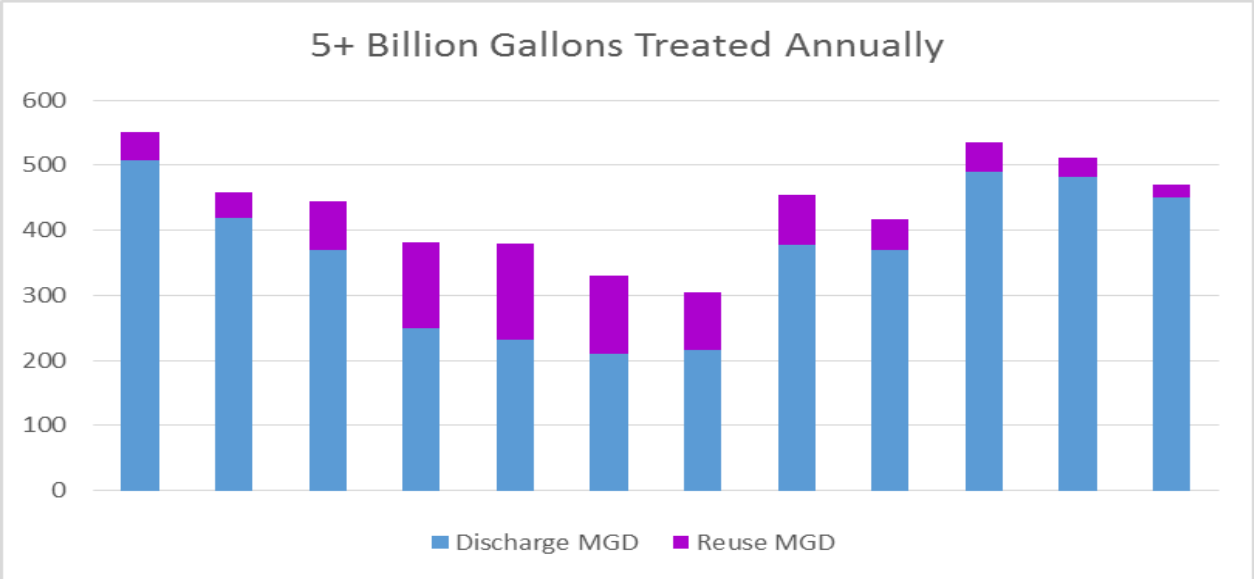
Pump Stations

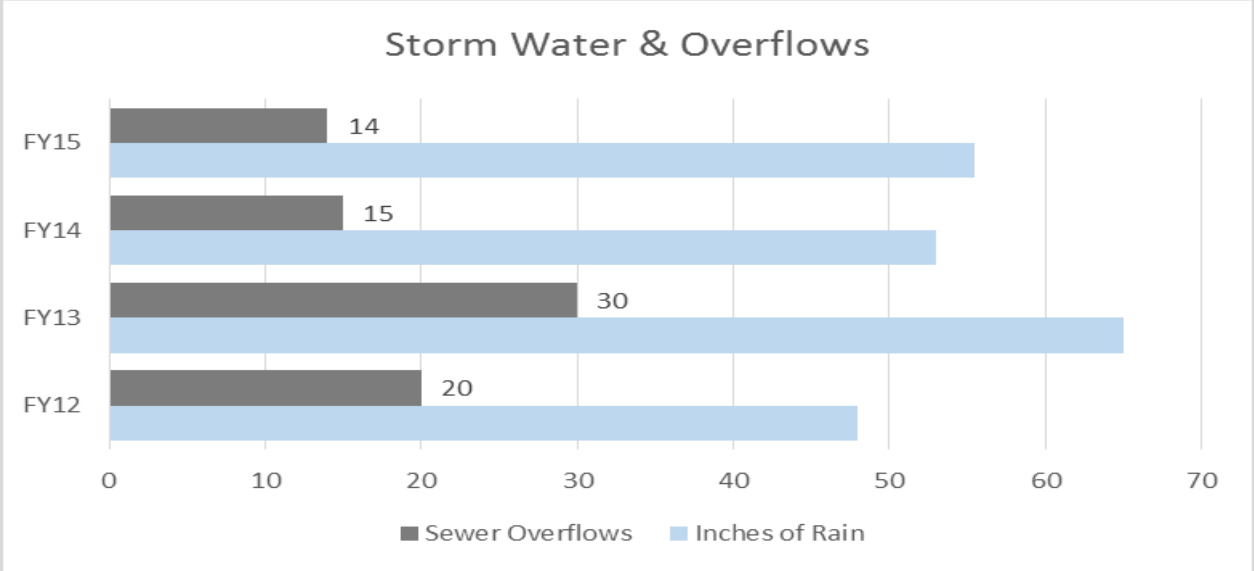
- Continue effective telemetry operation and maintenance program.
- Enhance flow coordination of Southwest Regional, Overall Creek, and the Main Pumping Stations.
- Optimize new Force Main liquid oxygen system.

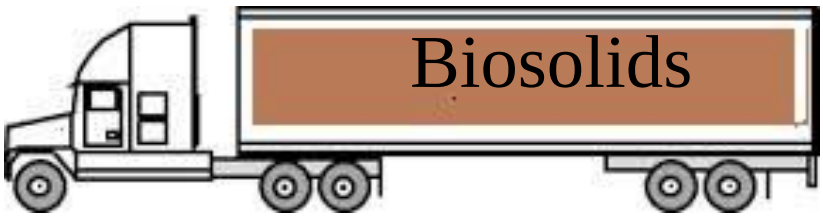
Repurified Water

- Engage Citizens concerning the value of Reuse water & the concept of “Direct to Potable.”
- Increase repurified water availability throughout the city.
- Make improvements to Coleman Farm to store equipment.
- Install two medium irrigation units at the Coleman and Jordan farms.
- Monitor the need to install a booster pump located at the Coleman farm.
- Continue to find new customers for repurified water

KEY PERFORMANCE MEASURES



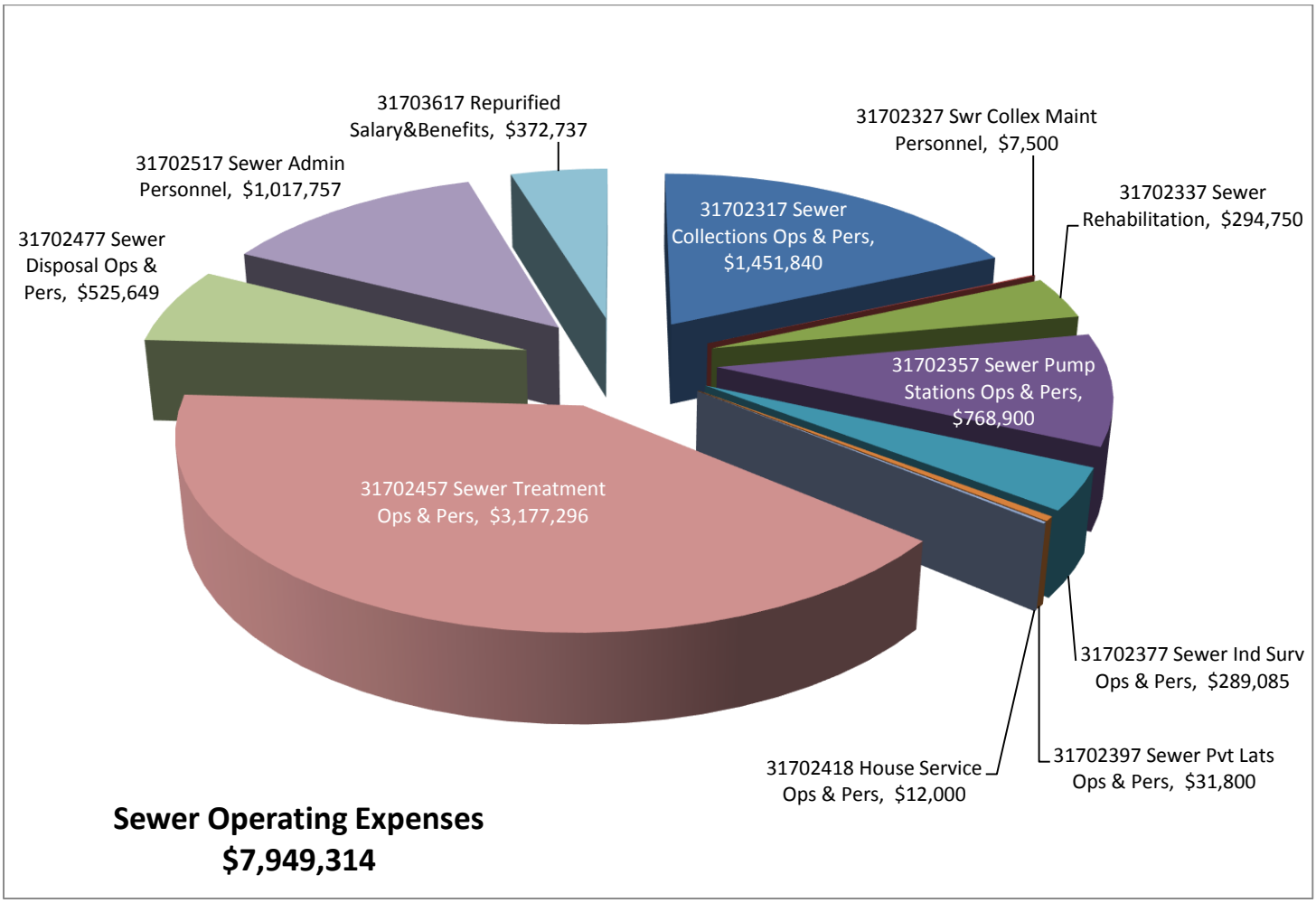




FY 2015
Year-to-Date:

- ~1000 Trips to the Landfill
- ~20,000 Tons of Biosolids Hauled
- Another – ACCIDENT FREE - year

PROPOSED BUDGET WASTEWATER COLLECTION & TREATMENT



DEBT SERVICE (CAPITAL OUTLAY)

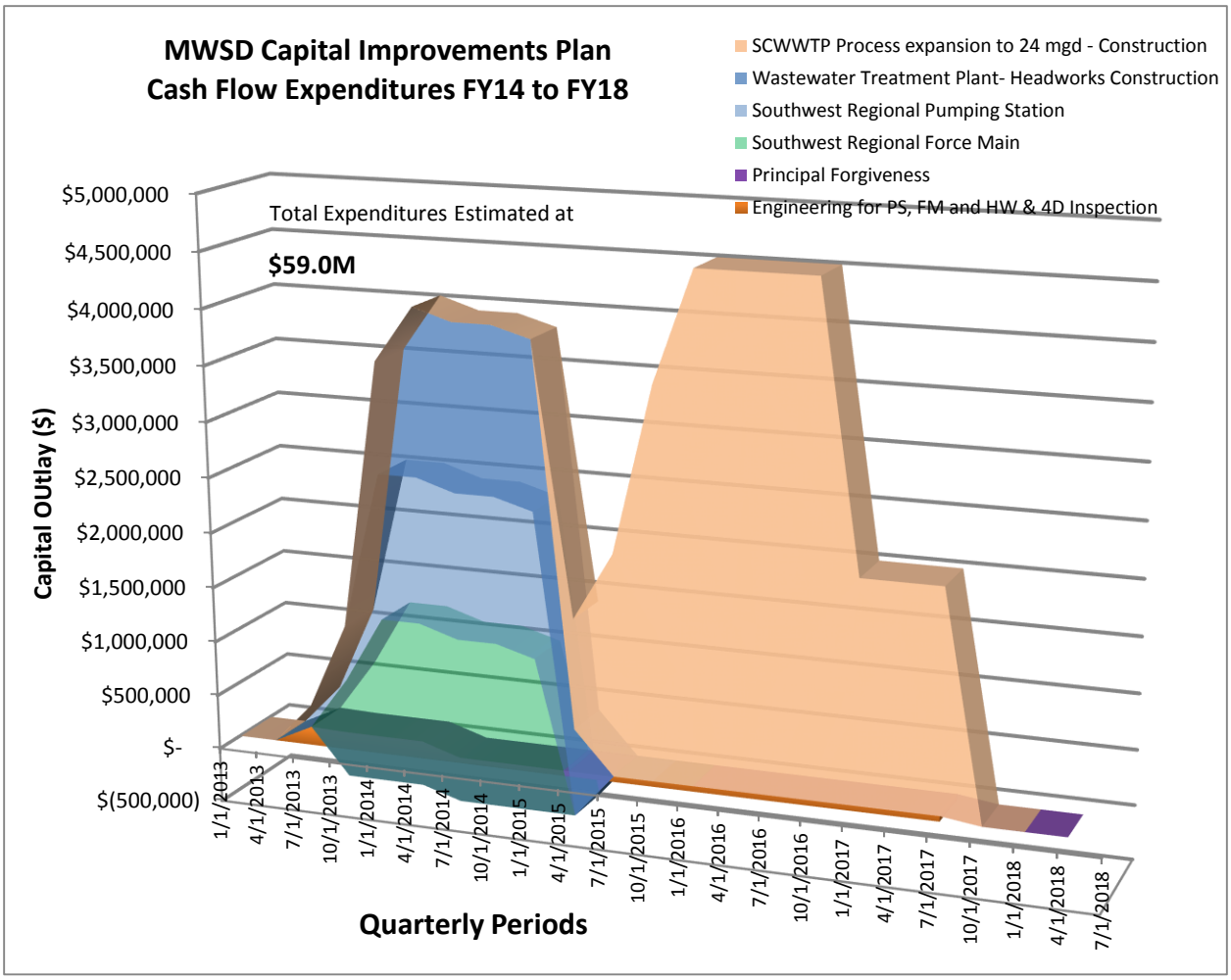
The Debt Service or Capital Outlay budget is based on the Debt Policy approved by the Murfreesboro Water and Sewer Board in December 2011. Principal and interest on Department debt is funded from revenues received for services provided. It is backed by the full faith, credit and taxing power of the City.

Murfreesboro has two outstanding loans issued through the variable rate debt program managed by the Tennessee Municipal Bond Fund (Loan IDs 50279 and 50368). The two remaining variable rate obligations total approximately $33 million and represent 31 percent (31%) of the Department's current outstanding debt.

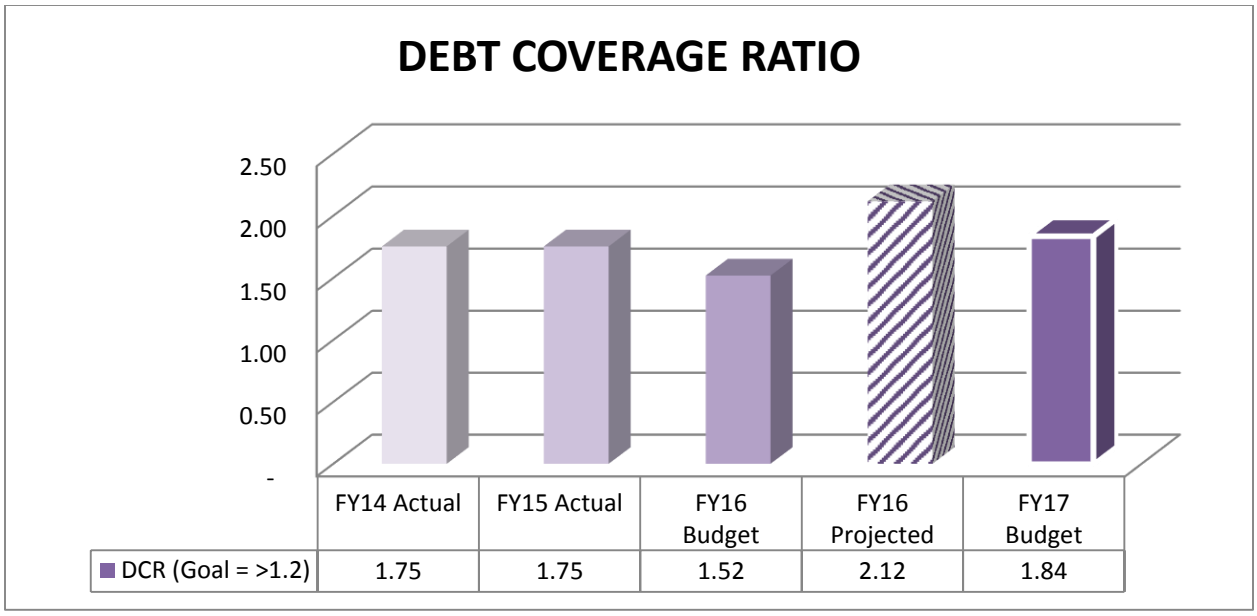
The Department entered into three Clean Water, State Revolving Fund (SRF) Loan agreements in the fall of 2012 (see table below). Loans 2012-306, 2013-317 and 2012-303 total $37 million in proceeds. Debt forgiveness on the loans totals $2.87 million, resulting in a maximum of $34.13 million in debt. Interest is at 1.01%. Final loan proceeds are expected to be approximately $25.1 million. All three (3) loans are amortized with an annual debt service of $1.87 million over 20 years.

On October 9, 2014 the Department was awarded $4,000,000 and $32,500,000 SRF loans for the expansion of the Sinking Creek Wastewater Treatment Plant from 16.0 MGD to 24.0 MGD (see table below). The loans are 20-year term with a fixed interest rate of 1.38%. The $4 million loan has been fully drawn, with annual debt service of $225K over 20 years. The 32.5 million loan should be amortized in early FY18, with an annual debt service of $1.8 million. Final loan draws will determine the final debt service amounts.

Project	Funding Source	Total Estimated Project Cost	Principal Forgiveness	Total Estimated Loan
Southwest Regional Pump Station	SRF	$8.6 M	$2.1M	**$6.5 M**
Fournier Presses and related equipment	SRF	$1.4 M	$400 k	**$1.0**
Southwest Regional Force Main	SRF	$8.9 M	$400k	**$8.5M**
SCWWTP Headworks	SRF	$9.1 M	$0	**$9.1 M**
SCWWTP Plant Expansion	SRF	$34.0M	$0	**$34.0M**
TOTAL		**$61.9M**	**$2.9M**	**$59.0M**



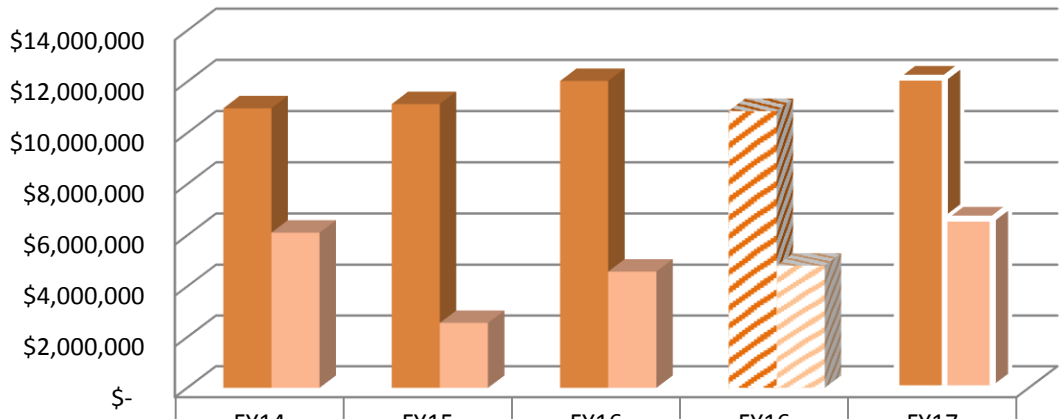
One of MWSD's financial policies is to maintain a Debt Coverage Ratio (funds available for debt coverage divided by capital outlay) of 1.2 or greater. The following graph is a summary of MWSD's FY17 Debt Coverage Ratio summary:



Summary of FY17 Capital Outlays:

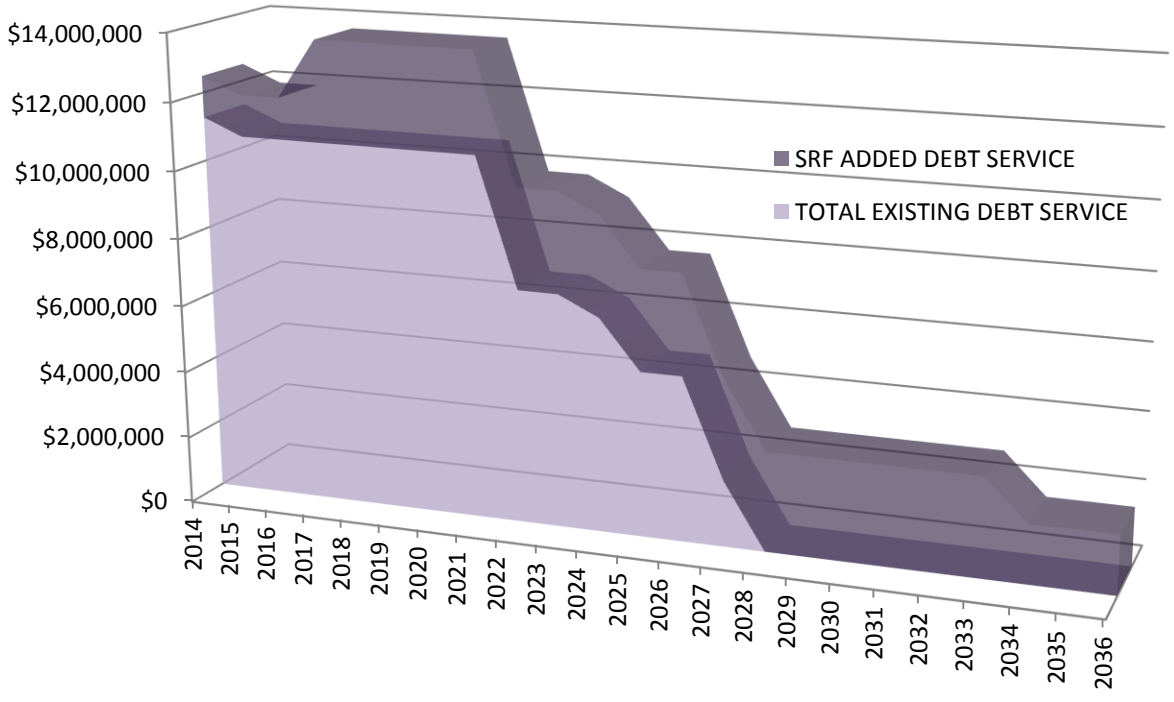
DEBT SERVICE	FY14	FY15	FY16 Bud	FY16 Proj	FY17 Bud	Increase (Decrease)
BOND EXP SERVICE CHARGES	32,194	30,580	36,000	36,000	36,000	-
GAIN/LOSS-DISPOSED ASSETS	708,119	1,133,671	-			
TAP FEE EXPENSE	325,283	378,845	350,000	350,000	350,000	-
INTEREST EXP SRF 92 WWTP	-	-				
INTEREST EXP 1996 BOND IS	-	-				
INTEREST EXP SRF 96-089	-	-				
INTEREST EXP SRF 2000-148	-	-				
INTEREST EXP TMBF 2003 LN	35,620	31,051	40,000	30,000	44,000	14,000
INTEREST EXP TML 2006	242,704	218,974	240,000	220,000	300,000	80,000
INTEREST EXP 2009 REFUND	1,208,134	1,085,813	1,157,400	1,157,400	1,081,800	(75,600)
INTEREST EXP 2013 REFUNDING	371,090	326,294	284,991	284,991	239,010	(45,981)
INTEREST SRF 2012-303 PS	-	-	75,000	17,500	67,500	50,000
INTEREST SRF 2013-317 FM	-	20,965	34,632	34,632	32,940	(1,692)
INTEREST SRF 2012-306 HW	-	-	230,000	71,000	206,500	135,500
PRINCIPAL SRF 92-040	-					
PRINCIPAL SRF 2000-148	-					
PRINCIPAL TML 2003	415,000	428,000	442,000	442,000	456,000	14,000
PRINCIPAL TML SERIES 2006	1,720,000	1,798,000	1,879,000	1,879,000	1,963,000	84,000
PRINCIPAL SRF 2013-317 FORCE MN	-	95,802	165,444	165,444	166,992	1,548
PRINCIPAL SRF 2012-303 PUMP ST		-	342,000	114,500	345,500	231,000
PRINCIPAL SRF 2012-306 HEADWORKS		-	1,050,000	350,000	1,055,000	705,000
PRINCIPAL 2013 REFUNDING		3,465,000	3,510,000	3,510,000	3,555,000	45,000
REVENUE AND TAX BOND 2009	2,515,000	2,115,000	2,195,000	2,195,000	2,260,000	65,000
SRF 96-089	3,390,000	-				
DEBT SERVICE	**10,963,144**	**11,127,995**	**12,031,467**	**10,857,467**	**12,159,242**	1,301,775

CAPITAL OUTLAY (DEBT SERVICE) & CAPITAL EXPENDITURES



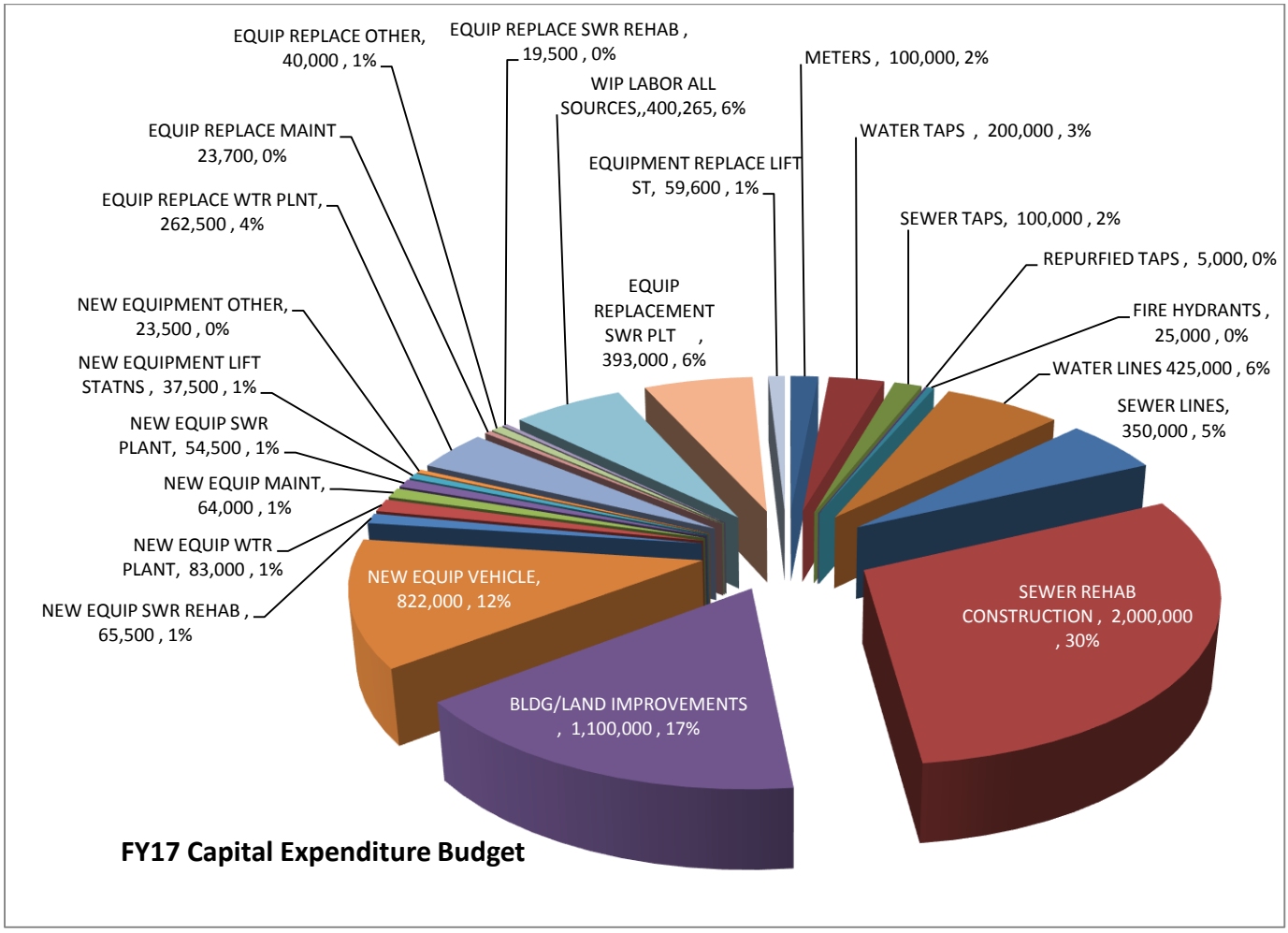
	FY14 Actual	FY15 Actual	FY16 Budget	FY16 Projected	FY17 Budget
DEBT SERVICE	$10,963,144	$11,127,995	$12,031,467	$10,857,467	$12,159,242
CAPITAL EXPENDITURES	$6,105,634	$2,561,638	$4,584,734	$4,818,234	$6,653,565

MWSD Annual Debt Service
Existing and SRF Added



RATE FUNDED CAPITAL EXPENDITURES

Rate Funded Capital Expenditures are infrastructure and equipment that is funded from the user rates. It includes vehicles replacement, treatment equipment, water meters, fire hydrants, and allowances for water, sewer and sewer rehabilitation projects constructed with Department crews. The goal is to annually fund over $5.0M in Rate Funded Capital Expenditures.



WORKING CAPITAL RESERVES

Working Capital is Department cash available to fund Department projects less any secured cash reserves and after obligations in various work orders.

MWSD is projecting $16.79M in Operating Cash available to pay for capital projects as of March 31, 2016. "Available" funds are those fund designated above what has been committed to current or pending projects and above the secured twelve (12) month minimum balance of operating and maintenance expenses.

EFFECTIVE UTILITY MANAGEMENT

Financial Viability

MWSD WORKING CAPITAL ACCOUNT SUMMARY

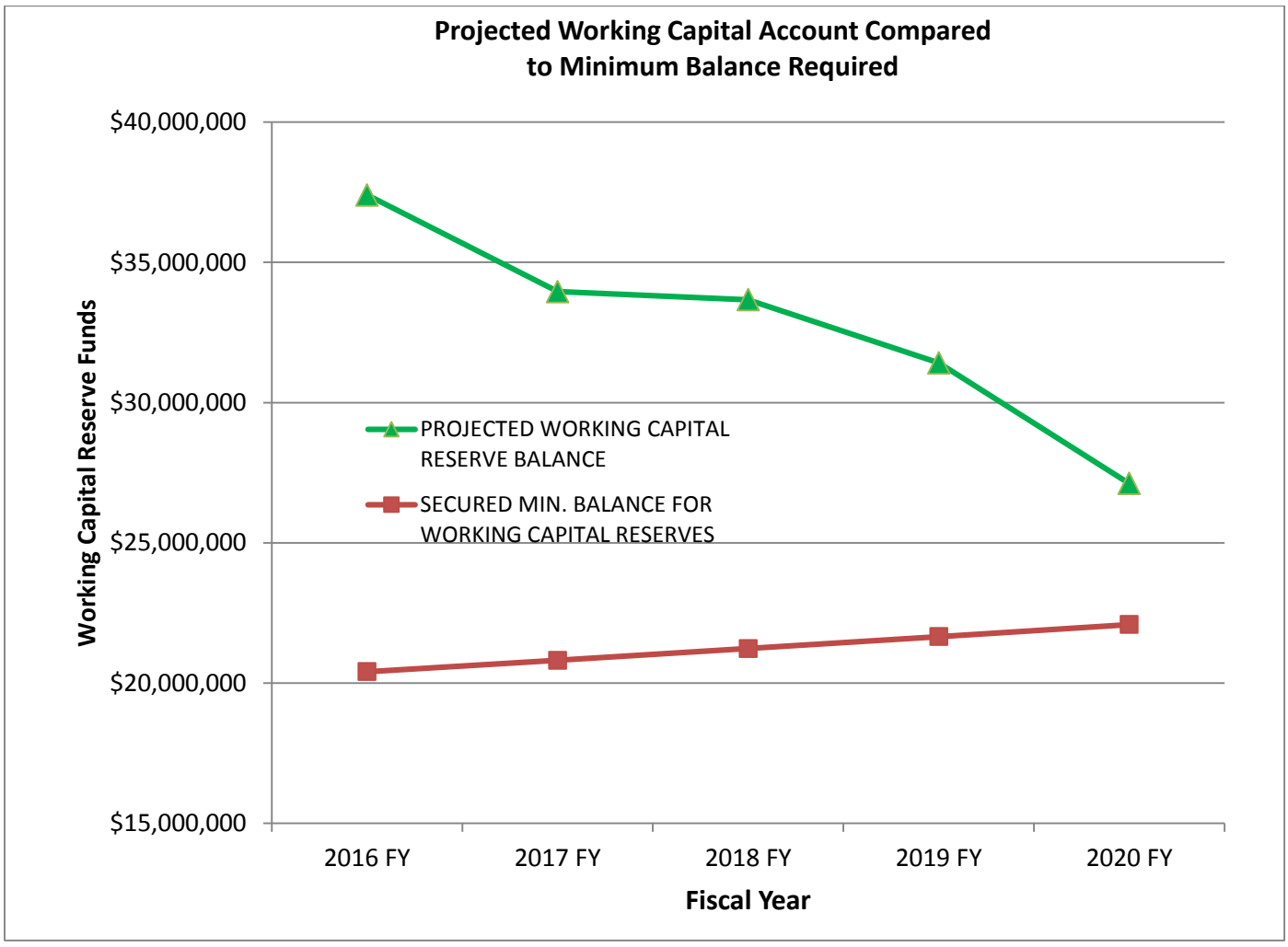
ESTIMATED Working Capital at 3/31/16		
Board Designated (System Dev, Assessments, etc) as of 6/30/15	$28,659,579	
Undesignated Excess Funds as of 6/30/15	$18,310,430	
Estimated Reserve Revenue thru 3/31/16	$7,776,426	
Estimated Reserve Expenditures thru 3/31/16	$(7,605,859)	
		$47,140,576
COMMITTED Reserves at 3/22/16		**$8,342,082**
BALANCE of Working Capital at 4/26/16 after COMMITMENTS		**$38,798,494**
DESIGNATED Projects Pending		**$1,600,000**
ESTIMATED UNCOMMITTED Working Capital Reserves as of April 26, 2016		**$37,198,494**
SECURED FY15-16 Operating and Maintenance Expenses		**$20,404,791**
UNASSIGNED Working Capital Funds (Est. Uncommitted - Secured)		**$16,793,703**

Outstanding commitments in work orders approved by the Board and Council to be funded from Restricted Cash amount to obligations of existing Restricted Cash in the amount of approximately $12M. The majority of this committed cash outlay is for the installation of the Department's Advanced Metering Infrastructure (AMI) wireless meter reading system, contracted at $8.3M.

The Board adopted a policy to keep an equivalent of one year operating expense as a restricted reserve. For FY16 this minimum balance will be $20.404 million. This results in an estimated $10.3 in available cash (working capital) for future projects to be funded. The following table shows a pro forma forecast of the available working capital fund through FY19 based on projected tap revenue, sinking fund revenue from rates, enhanced AMI revenue and anticipated projects funded with cash on hand (i.e., working capital reserves).

SECURED AND OPERATING CASH

	2015-2016 2016 FY	2016-2017 2017 FY	2017-2018 2018 FY	2018-2019 2019 FY	2019-2020 2020 FY
PROJECTED RESERVE FUND BALANCE REVENUE (TAPS)	$4,500,000	$4,500,000	$4,500,000	$4,500,000	$4,500,000
PROJECTED ENHANCED REVENUE FOR RESERVES	$200,000	$500,000	$750,000	$2,000,000	$2,000,000
SINKING FUND DEPOSITS TO RESERVES FROM RATES	$1,200,000	$1,200,000	$900,000	$500,000	$500,000
SECURED MIN. BALANCE FOR WORKING CAPITAL RESERVES	$20,404,791	$20,812,887	$21,229,145	$21,653,727	$22,086,802
PROJECTED WORKING CAPITAL RESERVE BALANCE	$37,399,556	$33,954,556	$33,664,556	$31,414,556	$27,114,556
FUNDS ABOVE SECURED MINIMUM BALANCE	**$16,994,765**	**$13,141,669**	**$12,435,411**	**$9,760,829**	**$5,027,754**



The following table itemizes the capital projects anticipated to be funded with the Department's working capital reserves (i.e., cash on hand).

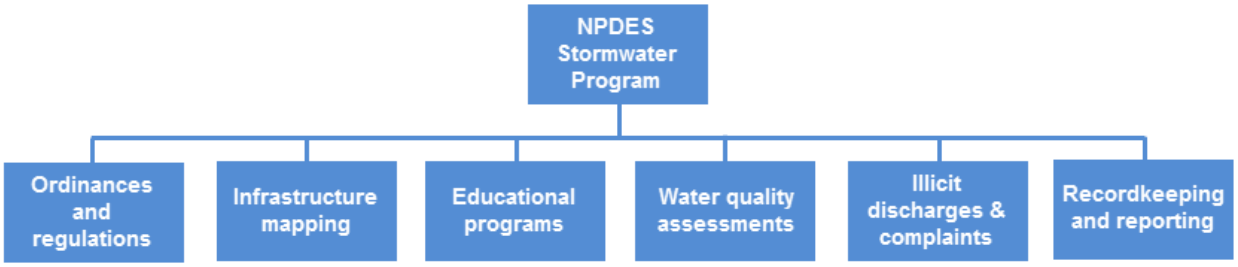
PROJECT	2015-2016 2016 FY	2016-2017 2017 FY	2017-2018 2018 FY	2018-2019 2019 FY	2019-2020 2020 FY	TOTAL
W&S CAPITAL IMPROVEMENT PROJECTS						
Misc FY15 Working Reserve Commitments	$2,100,000.00					$2,100,000.00
Customer Service Area Security Renovations	$450,000.00					$450,000.00
Contingency Items (Generators, Gear Box, HVAC)	$775,000.00					$775,000.00
NE Regional Engineering Design	$500,000.00	$500,000.00	$500,000.00	$200,000.00	$200,000.00	$1,900,000.00
NE Regional P.S.				$2,500,000.00	$5,000,000.00	$7,500,000.00
NE Regional Force Main				$2,500,000.00	$5,000,000.00	$7,500,000.00
SCWWTP Phase 4D Engineering & Inspection	$300,000.00	$250,000.00				$550,000.00
Lift Station Rehab/Replacement (#2, #13, #19 & #20)	$1,500,000.00	$500,000.00	$500,000.00	$500,000.00		$3,000,000.00
S. Church St. Sewer @ Joe B. Jackson Pkwy	$250,000.00					$250,000.00
Water Resource Integration Plan (WRIP)	$400,000.00					$400,000.00
WTP Membrane Replacement				$2,000,000.00		$2,000,000.00
Biolsolids Storage Addition			$1,500,000.00			$1,500,000.00
Water Quality Studies		$50,000.00	$50,000.00	$50,000.00	$50,000.00	$200,000.00
Subtotal CAPITAL PROJECTS	$6,275,000.00	$1,300,000.00	$2,550,000.00	$7,750,000.00	$10,250,000.00	$28,125,000.00
TRANSPORTATION (Water/Sewer Imp.)						
Bradyville Pike		$500,000.00	$500,000.00			$1,000,000.00
MT Blvd Widening- Greenland to Main	$750,000.00	$750,000.00	$140,000.00			$1,640,000.00
Lytle St. Relocation (Ph1 & Ph2)	$390,000.00	$1,170,000.00				$1,560,000.00
SR 99 Widening- Old Fort to Cason Lane		$500,000.00	$500,000.00			$1,000,000.00
Cherry Lane Repurified Main Extension (14,600 LF)		$825,000.00	$1,000,000.00			$1,825,000.00
Maney Avenue Reconstruction - Phase 2		$250,000.00	$250,000.00			$500,000.00
Wilkinson Pike Reconstruction (MCP to TL)		$200,000.00				$200,000.00
Subtotal TRANSPORTATION PROJECTS	$1,140,000.00	$4,195,000.00	$2,390,000.00	$0.00	$0.00	$7,725,000.00
REHABILITATION						
Sewer Rehabiliation - Maintenance Contract	$1,500,000	$1,000,000	$1,000,000	$1,000,000	$1,000,000	$5,500,000
INFORMATION TECHNOLOGY PROJECTS						
CIS, IVR, MWM	$50,000.00					$50,000.00
Advanced Metering Infrastructure (AMI)	$4,150,000.00	$2,850,000.00				$7,000,000.00
IT/Computer Systems Hardware Upgrades	$200,000.00	$50,000.00	$50,000.00	$50,000.00	$50,000.00	$400,000.00
Financial Information Systems (FIS), HRIS						$0.00
Electronic Content Management (Scanning/Imaging)		$150,000.00	$150,000.00	$150,000.00		$450,000.00
IT Design Services & Consulting	$100,000.00	$100,000.00	$100,000.00	$100,000.00		$400,000.00
Computerized Maintenance Management System (CMMS)			$200,000.00	$200,000.00		$400,000.00
Subtotal INFORMATION TECHNOLOGY PROJECTS	$4,500,000.00	$3,150,000.00	$500,000.00	$500,000.00	$50,000.00	$8,700,000.00
TOTAL Projects from **Working Capital Reserves**	**$13,415,000.00**	**$9,645,000.00**	**$6,440,000.00**	**$9,250,000.00**	**$11,300,000.00**	**$50,050,000.00**

STORMWATER

DEPARTMENT SUMMARY

The NPDES Stormwater Program refers to aspects of stormwater management required under a Federally-mandated and State-issued National Pollutant Discharge Elimination System (NPDES) permit for the discharge of stormwater runoff from the municipal separate storm sewer system (MS4). The goal of the program is clean stormwater runoff discharged to local streams. This is accomplished through education of residents and business operators in pollution prevention, through good management of city operations, and through ordinances and requirements designed to prevent or capture pollutants in stormwater runoff both during and after construction in areas of new development and redevelopment.

ORGANIZATIONAL CHART



IMPLEMENTATION OF COUNCIL PRIORITIES
SAFE AND LIVABLE NEIGHBORHOODS

- Promote green infrastructure (vegetation) as part of stormwater quality management practices
- Educate the public on stormwater pollution prevention (oils, litter, herbicides, pet waste)
- Monitor, and develop strategies to improve, water quality of local streams

STRONG AND SUSTAINABLE FINANCIAL AND ECONOMIC HEALTH

- Stormwater quality standards that encourage practicable and long-term reliable stormwater management designs

EXCELLENT SERVICES WITH A FOCUS ON CUSTOMER SERVICE

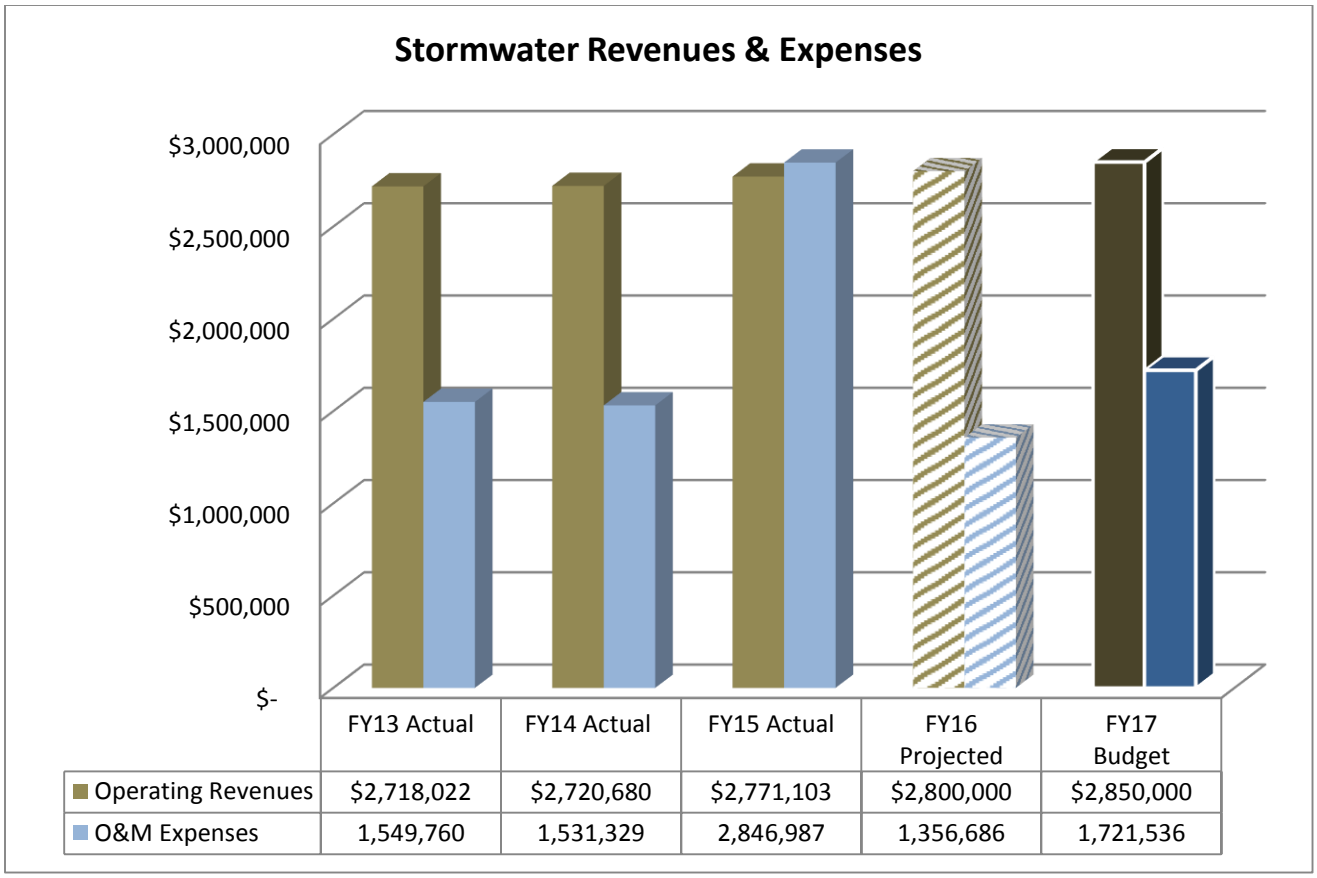
- Clearly stated ordinances and standards
- Clear and understandable forms and submittal requirements for development projects
- Prompt response and resolution of complaints

FY 2016 ACCOMPLISHMENTS

- Education and participation projects such as Tree Day at Barfield Crescent Park, distributing 500 trees to riparian property owners on Middle Fork and West Fork Stones River; tree plantings on Sinking Creek and Garrison Creek; invasive plant removal at Old Fort Park on National Public Lands Day; stream clean-ups on Garrison Creek and Lytle Creek (April, 2016); education of dozens of teachers and 100s of students Project WET and MTSU Creeks to Classroom instruction in creeks and in classrooms (e.g., MTSU, John Pittard, Scales, Overall Creek, Wilderness Station)
- Continued regular activities of stream monitoring and assessments, including macro-invertebrate ("critters") sampling of impaired streams; detailed macroinvertebrate sampling of 21 stream segments scheduled for Spring 2016
- Conducted Visual Stream Assessment and watershed study on Middle Fork Stones River
- State of Streams video prepared with City TV, posted to City web site
- Began inspections of stormwater control measures on private and public property
- Revised section of stormwater controls manual on proprietary treatment devices and improved presentation of manual on web page
- Formally added green infrastructure design option for small development sites
- Continued work on preparation of Enforcement Response Policy and Storm Water Management Plan (SWMP)

FY 2017 DEPARTMENT GOALS

- Update Stormwater ordinance to add green infrastructure option for any sized development
- Develop Enforcement Response Policy per State permit requirement to 75% complete
- Stormwater management plan (SWMP) to 75% complete
- West Fork Stones River bank restoration project completed
- Inspect 30% of installed stormwater quality controls on private and public property (~70 sites)
- Visual Stream Assessment in Overall Creek watershed
- Work to find source of bacteria present in Town and Lytle Creeks
- Identify potential locations for retrofits of vegetation-based (green) stormwater controls in watersheds of TMDLs

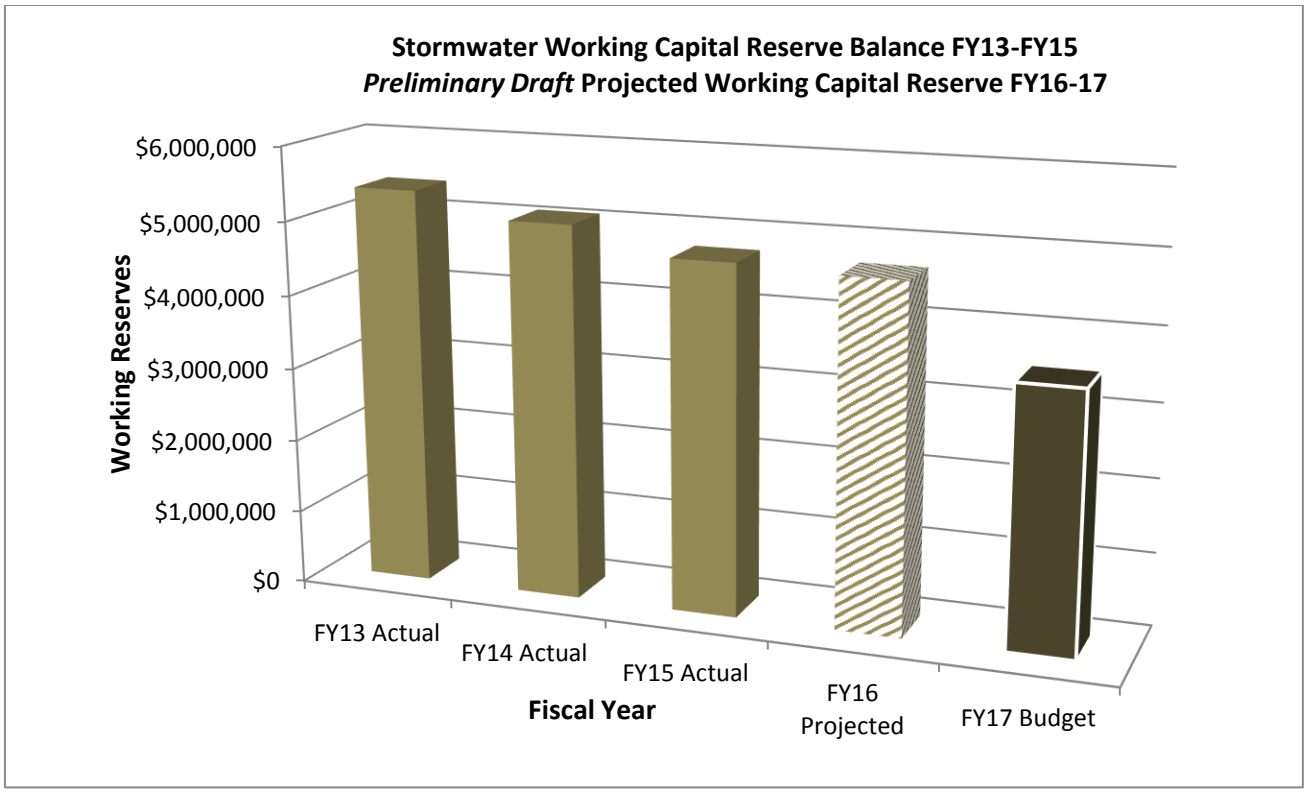


	FY13 Actual	FY14 Actual	FY15 Actual	FY16 Projected	FY17 Budget
Operating Revenues	$2,718,022	$2,720,680	$2,771,103	$2,800,000	$2,850,000
O&M Expenses	1,549,760	1,531,329	2,846,987	1,356,686	1,721,536

***Preliminary Draft* STORMWATER FUND**					
FY17 Budget					
FY18-FY20 Pro Forma					
	FY16	**FY17**	**FY18**	**FY19**	**FY20**
	Projected	**Budget**	**Pro Forma**	**Pro Forma**	**Pro Forma**
REVENUE					
Stormwater Fees	$2,800,000	$2,850,000	$2,900,000	$2,950,000	$3,000,000
EXPENDITURES					
Labor	$393,594	$405,402	$417,564	$430,091	$442,993
Taxes/Benefits	$185,658	$191,227	$196,964	$202,873	$208,959
City Reimbursement - Engineering	$430,725	$443,647	$456,957	$470,665	$484,785
City Reimbursement - Legal	$25,000	$25,000	$25,000	$25,000	$25,000
City Reimbursement - Street Dept.	$120,000	$450,000	$450,000	$450,000	$450,000
City Reimbursement - Other	$0	$0	$0	$0	$0
Consulting Services - MTSU	$50,000	$50,000	$50,000	$50,000	$50,000
Consulting - Other	$26,523	$27,318	$28,138	$28,982	$29,851
Transportation	$68,959	$71,027	$73,158	$75,353	$77,613
Public Outreach/Adv	$18,035	$18,576	$19,134	$19,708	$20,299
Other Expenses	$38,192	$39,338	$40,518	$41,734	$42,986
Total Operating Expenses	$1,356,686	$1,721,536	$1,757,432	$1,794,405	$1,832,487
Rate-funded Capital Assets	$586,630	$539,899	$365,000	$500,000	$500,000
Storm Sewer Repair & Replacement	$250,000	$250,000	$250,000	$250,000	$250,000
TOTAL EXPENDITURES	$2,193,316	$2,511,435	$2,372,432	$2,544,405	$2,582,487
EXCESS REVENUES	$606,685	$338,565	$527,568	$405,595	$417,513
WORKING CAPITAL RESERVES					
Beginning Balance	$4,737,608	$4,669,293	$3,507,857	$1,885,425	$1,116,020
Additions	$606,685	$338,565	$527,568	$405,595	$417,513
Deductions - CIP	-$675,000	-$1,500,000	-$2,150,000	-$1,175,000	-$650,000
Deductions - Participation	$0	$0	$0	$0	$0
Ending Balance	$4,669,293	$3,507,857	$1,885,425	$1,116,020	$883,533

Preliminary Draft **5-YR CAPITAL IMPROVEMENTS PLAN (CIP)**
STORMWATER UTILITY FUND, FY17-21

NO.	PROJECT	Originator	2015-2016 2016 FY	2016-2017 2017 FY	2017-2018 2018 FY	2018-2019 2019 FY	2019-2020 2020 FY	2020-2021 2021 FY	TOTAL
			Projected	***Budget***	*Pro Forma*	*Pro Forma*	*Pro Forma*	*Pro Forma*	
	Neighborhood Projects (NP)								
NP-1	Memorial Blvd / Haynes Dr. Drainage Improvements	City Eng	$25,000	$75,000	$150,000	$125,000			$375,000
NP-2	Mitchell-Nielson Drainage Project	City Eng		$50,000	$50,000				$100,000
NP-3	Huntwood/Leaf Ave Neighborhood Drainage Imp.	City Eng		$100,000	$100,000				$200,000
NP-4	Southern Meadows / Kimbro Woods Drainage Imp.	City Eng	$300,000	$200,000	$400,000				$900,000
NP-5	Liberty Dr. / Thatcher Trace Spring Box	City Eng			$25,000	$50,000	$50,000		$125,000
NP-6	Pennington Drive Drainage Repair/Upgrade (Added)	City Eng							$0
NP-7	Gateway Pond Repair (Added)	Eng/MWSD							$0
NP-8	Hardwood Drive Drainage Upgrade (Added)	City Eng		$100,000	$250,000				$350,000
NP-9	Pacific Place/Riverrock Blvd Drainage Imp.	City Eng		$0	$150,000	$200,000			$350,000
	Subtotal		$325,000	$525,000	$1,125,000	$375,000	$50,000	$0	$2,400,000
	Water Quality Improvement (Compliance) Projects (WQ)								
WQ-1	Town Creek Bioretention BMP's @ Cannonsburgh	MWSD		$0	$75,000				$75,000
WQ-2	Molloy Lane Water Quality Pond	MWSD			$100,000	$100,000			$200,000
WQ-3	Rosebank Springs Constructed Wetlands	City Eng	$100,000	$400,000	$300,000				$800,000
WQ-4	Lee's Branch Stream Restoration	City Eng			$50,000	$50,000	$50,000	$50,000	$200,000
WQ-5	West Fork Stones River at Cason Trail; bank repair	MWSD	$100,000						$100,000
WQ-6	Bear Branch Water Quality Mitigation	City Eng		$50,000	$50,000	$50,000	$50,000	$50,000	$250,000
WQ-7	Sinking Creek Headwater protection BMP	City Eng		$100,000	$100,000	$150,000	$150,000		$500,000
WQ-8	Todd's Lake Regional Wetlands Improvements	City Eng							$0
WQ-9	Hooper's Bottom Regional Water Quality Project	City Eng	$25,000	$100,000	$150,000	$150,000	$150,000	$150,000	$725,000
WQ-10	Lytle Creek/Ridgley Road Bacteriological Reduction (Added)	MWSD				$50,000			$50,000
WQ-11	Memorial Blvd/VA Pond Trash Rack (Added)	MWSD				$50,000			$50,000
WQ-12	Spence Creek Restoration	Eng/MWSD		$100,000	$25,000	$25,000	$25,000	$25,000	$200,000
	Subtotal		$225,000	$750,000	$850,000	$625,000	$425,000	$275,000	$3,150,000
	Public Drainage/Streets Participation Projects (PD)								
PD-1	Maney Avenue Phase 2	City Eng							$0
PD-2	Town Creek Conveyance (Murfree Springs to Cannonsburgh)	City Eng	$25,000	$225,000	$175,000	$175,000	$175,000		$775,000
PD-3	Maple St. Alley Permeable Paver Project	City Eng	$100,000						$100,000
	Subtotal		$125,000	$225,000	$175,000	$175,000	$175,000	$0	$875,000
	Parks & Rec and School Participation Projects (PP)								
PP-1	Hobgood School Porous Pavers	City Eng							$0
PP-2	McFadden LID Project	MWSD							$0
PP-3	Parks and Rec Office/Ag Center Pervious Parking Lot	MWSD							$0
PP-4	West Elementary School Porous Pavers/Outdoor Classroom	City Eng							$0
PP-5	Hobgood School Pervious Pavers Phase 2	City Eng							$0
PP-6	Black Fox School Pervious Pavers	City Eng							$0
PP-7	Police HQ Sinking Creek Water Quality Project	City Eng							$0
	Subtotal		$0	$0	$0	$0	$0	$0	$0
	Watershed Planning Projects / Development Participation (DP)								
DP-1	Warrior Dr. Regional Stormwater BMP	MWSD							$0
DP-2	Mercury Plaza Shopping Center Pervious Parking Conversion	City Eng							$0
	Subtotal		$0	$0	$0	$0	$0	$0	$0
	Totals		**$ 675,000**	**$1,500,000**	**$ 2,150,000**	**$ 1,175,000**	**$ 650,000**	**$ 275,000**	**$ 6,425,000**


Stormwater Working Capital Reserve Balance FY13-FY15
Preliminary Draft Projected Working Capital Reserve FY16-17
Working Reserves
$6,000,000
$5,000,000
$4,000,000
$3,000,000
$2,000,000
$1,000,000
$0
FY13 Actual
FY14 Actual
FY15 Actual
FY16 Projected
FY17 Budget
Fiscal Year

APPENDICES

SYSTEM INFRASTRUCTURE REPORT 4/29/16

The following are totals of System features whose locations have been collected with GPS and moved to their correct location in GIS.

Water Distribution System

Feature	Count	# GPS Located	% Located
Meters	26,696	26,667	99.9%
MWSD Hydrants	3,398	3,398	100%
Valves	9,307	8,984	96.4%
Blowoffs	481	449	93.3%
CUD Hydrants	2,305	2,305	100%
CUD Hydrant Valves	2,297	2,297	100%
Totals	**44,484**	**44,100**	**99.1%**

Water Line Footage : 440.27 miles

The majority of the water lines are 8" or greater (330.86 mi. or 75.1%) and the majority are made of PVC or Ductile Iron (321.00 mi. or 72.9%) Water Service Area = 35.54 mi²

Sewer Collection System

Feature	Count	# GPS Located	% Located
Manholes	14,513	14,471	99.7%
Pumpstations	46	46	100.0%
Cleanouts	34,813	27,197	78.1%
Industrial Monitors	21	20	95.2%
Totals	**49,393**	**41,734**	**84.5%**

Gravity Sewer Footage : 602.86 miles

Force Main Footage : 29.53 miles

The majority of the gravity sewer lines are 8" or greater (600.17 mi. or 99.6%) and are made of PVC or Ductile Iron (511.47 mi. or 84.8%)

Repurified Water System

Feature	Count	# GPS Located	% Located
Valves	250	249	99.6%
Meters	144	142	98.6%
Totals	**394**	**391**	**99.2%**

Repurified Water Line Footage : 24.91 miles

Storm-Water Collection System

Feature	Count	# GPS Located	% Located
Junction Boxes	14,310	14,075	98.4%
Headwalls / Wingwalls	6,141	6,069	98.8%
Discharge Points	641	606	94.5%
Detention Basins	372	351	94.4%
Totals	**21,464**	**21,101**	**98.3%**

Storm Water Collection Footage: 657.80 miles and consists of 326.42 miles of Conduit flow; 325.78 miles of Open Channel flow; and 5.60 miles of Culvert flow

General Totals for the Past Month (March)

62– Construction Plans/Plats/DVDs submitted for approval (New Plans & Revisions)

? – "Notices to Proceed" issued

11 – ACA's sent (construction project finalized)

MURFREESBORO WATER AND SEWER / STORMWATER
CAPITAL BUDGET - 2016-17

Account	Description	TOTAL AMOUNT	STORM WATER
280	**Meters**	$100,000	
290	**Water Taps**	$200,000	
300	**Sewer Taps**	$100,000	
305	**Repurified water taps**	$5,000	
310	**Fire Hydrants (includes $12,000 automated flushing device)**	$25,000	
320	**Water Lines (includes $75,000 Leak Detection Imaging)**	$425,000	
330	**Sewer Lines**	$350,000	
335	**Sewer Rehab Construction, Lines and manhole replacement/repairs**	$2,000,000	
350	**Land Improvements / Structure Improvements**		
	ENGR - Reception Area Renovation (Door Work)	$5,000	
	O&M - Coleman / Jordan Farm	$20,000	
	O&M - Heater Replacements (5 @ $2500 each)	$12,500	
	O&M - Electricians Shop	$5,000	
	O&M - Pump Station Asphalt Sealing	$10,000	
	WTP - Basin Covers for all 5 Basins	$578,385	
	WTP - Replace RWPs and Valves	$200,000	
	WTP - High Service Check Valves (4)	$60,000	
	WTP - Repair Leaks in WTP Pipe Gallery	$50,000	
	WTP - LED Light at Tanks, Lake, and Plant	$20,000	
	WTP - Windows, Doors, Glass Block	$19,000	
	WWTP - Jordan Farm Shop Roof Insulation	$8,000	
	WWTP - Coleman Farm Shop Heater	$3,500	
	WWTP - Main Lab Roof Replacement	$90,000	
	SUBTOTAL: LAND IMPROVEMENTS	**$1,081,385**	
360	**Engineering Study**		
	SUBTOTAL: ENGINEERING STUDY	**$0**	
370	**New Equipment - Vehicles**		
	ENGR - Replace Unit 60, 2006 Ford F-150 Extended Cab (C White)	$26,000	
	M/R - Replace Unit 63, 2007 Ford F-150 (including accessories)	$23,109	
	O&M - Replace Unit 18	$115,000	
	O&M - Replace Unit 21	$100,000	
	O&M - Replace Unit 59, 2003 TV Truck w/ New Camera System (Rehab)	$180,000	
	O&M - Replace Unit 74, Single Axle Dump Truck	$95,000	
	O&M - ATV, 20HP 4WD with Dump Bed	$24,000	
	O&M - Easement Clearing Equipment, Brush Mower	$13,500	
	WTP - Replace Unit 14, 1998 GMC 3/4 Ton Utility Bed	$50,000	
	WTP - Replace Unit 29, 2001 Ford 1 Ton Utility Bed	$65,000	

MURFREESBORO WATER AND SEWER / STORMWATER
CAPITAL BUDGET - 2016-17

Account	Description	TOTAL AMOUNT	STORM WATER
	WWTP - Replace Unit 30, 2001 Ford F-350 (Farm)	$40,000	
	WWTP - Replace Unit 38, 2000 Ford F-350 3/4 Ton (Instrumentation)	$50,000	
	WWTP - Replace Unit 50, 2001 Ford F-150 1/2 Ton (FOG)	$40,000	
	STORMWATER - Replace Unit 42, 1999 Ford F-150 (Josh Upham)	$0	$26,000
	SUBTOTAL: NEW EQUIPMENT VEHICLES	**$821,609**	
375	**New Equipment, Sewer Rehabilitation**		
	ENGR - Wireless Flow Monitors	$35,490	
	ENGR - Rain Gauge	$8,580	
	ENGR - Tipping Bucket	$670	
	ENGR - New Sewer Push Camera (Rigid)	$11,000	
	O&M - Manhole Rehab Inflow Dishes	$3,000	
	O&M - Manhole Rehab Leak Repair Equipment	$2,000	
	O&M - Juno 5 Handheld GPS	$2,750	
	O&M - Hand Tools	$2,000	
	SUBTOTAL: NEW EQUIPMENT SEWER REHAB	**$65,490**	
380	**New Equipment Water Plant**		
	6000 Lb Capacity Tow Motor	$35,000	
	Flow Meters	$21,000	
	Lab Equipment	$8,000	
	Tools for Maintenance Truck	$6,500	
	Copper Fitting Crimp Tool	$5,000	
	Grounds Cart	$7,500	
	SUBTOTAL: NEW EQUIPMENT WATER PLANT	**$83,000**	
390	**New Equipment - Operations & Maintenance**		
	O&M - Hand Tools	$3,000	
	O&M - GEO 7X Series GPS (2 @ $14,000 Each - Distribution)	$28,000	
	O&M - Pneumatic Rock Drill (New Construction)	$1,500	
	O&M - New Steam Pressure Washer (New Construction)	$2,650	
	O&M - Drill Press (New Construction)	$750	
	O&M - Plasma Cutter (New Construction)	$2,650	
	O&M - IT Camera Replacements	$3,000	
	O&M - IT Copier	$8,500	
	O&M - IT Desktop Computer	$6,000	
	O&M & MR - Toughbooks for Leak Detection ($3000 Each)	$6,000	
	O&M - IT Printers / Copiers	$500	
	M/R - Metal Detector for Leak Detection	$725	
	M/R - Office Chairs (3 @ $200 Each)	$600	
	SUBTOTAL: NEW EQUIPMENT O&M	**$63,875**	
400	**New Equipment Sewer Plant**		
	Remote Access Terminal	$5,000	

MURFREESBORO WATER AND SEWER / STORMWATER
CAPITAL BUDGET - 2016-17

Account	Description	TOTAL AMOUNT	STORM WATER
	Sludge Trailer - Biosolids	$45,000	
	Trailer - Farm	$4,500	
	SUBTOTAL: NEW EQUIPMENT SEWER PLANT	**$54,500**	
405	**New Equipment Lift Stations**		
	WWTP - Telemetry Equipment	$15,000	
	O&M - Shelving with Bins	$700	
	O&M - 40 Gallon Parts Washer	$400	
	O&M - Wire Rack	$500	
	O&M - Conduit Rack	$1,000	
	O&M - Electrical Wire & Supplies	$4,500	
	O&M - Abrasive Blaster Cabinet	$1,500	
	O&M - 8" Bench Mount Vise	$850	
	O&M - Welders Cylinder Torch Cart	$500	
	O&M - OxyFuel Cutting & Welding Outfit	$400	
	O&M - Mig Welder	$1,700	
	O&M - 50 Ton Hydraulic Shop Press	$2,000	
	O&M - 80 Gallon Vertical Air Compressor	$3,200	
	O&M - Milling / Drilling Machine	$1,800	
	O&M - Vertical Metal / Wood Band Saw	$1,500	
	O&M - Horizontal Wet Band Saw	$1,500	
	O&M - Industrial Bench Grinder	$325	
	SUBTOTAL: NEW EQUIPMENT LIFT STATIONS	**$37,375**	
410	**New Equipment, Other (Admin, C/S, Engr)**		
	ADM - Phone System Module (full system call reporting, call recording)	$15,000	
	ADM - Folder / Stuffer	$4,000	
	ADM - Laptop	$1,500	
	ENGR - iPad	$1,600	
	ENGR - Desktop Computer (GIS)	$1,400	
	STORMWATER - Dissolved Oxygen Probe	$0	$1,450
	STORMWATER - I Pad	$0	$600
	STORMWATER - Computers (GIS - Desktop)	$0	$1,200
	SUBTOTAL: NEW EQUIPMENT OTHER (ADMIN, C/S, ENGR)	**$23,500**	
420	**Equipment Replacement Water Plant**		
	GAC Media	$110,000	
	Replace Wireless Backbone between WTP, Intake, and Tanks	$50,000	
	HVAC	$30,000	
	Turbidimeters	$19,500	
	Valves Actuators	$16,000	
	Digital Video Recorders	$9,000	
	Chemical Feed Pump	$8,500	
	Security Cameras	$8,000	

MURFREESBORO WATER AND SEWER / STORMWATER
CAPITAL BUDGET - 2016-17

Account	Description	TOTAL AMOUNT	STORM WATER
	Lab Equipment	$6,500	
	DC Server	$5,000	
	SUBTOTAL: EQUIPMENT REPLACEMENT WATER PLANT	**$262,500**	
430	**Equipment Replacement - Operations & Maintenance**		
	O&M - Shell Cutters - Mainline Tapping Machine (6" & 12")	$3,500	
	O&M - Safety / Signs	$1,500	
	O&M - Pipe Saw (4 @ $1200 Each for New Construction & Distribution)	$4,800	
	O&M - Trash Pump 2"	$1,500	
	O&M - Electric Water Pump	$850	
	O&M - Generator (New Construction)	$1,600	
	O&M - HTH Kits (3 @ $450 Each)	$1,350	
	O&M - Rounding Tool for Service Truck - 1/2" - 1" (5 @ $350 Each)	$1,750	
	O&M - Crimpers 1/2" - 1" (4 @ $333 Each)	$1,332	
	O&M - Easy Out & Corp Installer for Service Trucks	$4,000	
	M/R - Small Tools	$1,500	
	O&M - Safety Signs (for Stormwater)	$0	$1,000
	SUBTOTAL: EQUIPMENT REPLACEMENT O&M	**$23,682**	
440	**Equipment Replacement - Admin, C/S, Engr**		
	ADM - Refrigerator	$1,500	
	ADM - Computer Peripherals	$1,000	
	C/S - Computer Peripherals	$1,000	
	ENGR - SQL Software (GIS)	$8,000	
	ENGR - GIS Servers (2)	$11,000	
	ENGR - Desktop Computer (Non GIS)	$2,400	
	ENGR - Desk Chairs (3-Reception, Daniel, and New GIS Position)	$1,000	
	ENGR - Bookcase	$600	
	ENGR - Breakroom Chairs (8)	$750	
	ENGR - Furniture for Reception Area Renovation	$5,000	
	ENGR - Net / Security	$2,000	
	ENGR - GIS Reorganization (Furniture & Partitions)	$5,000	
	STORMWATER - HydroCad Update; Single License; 1000 Node	$0	$480
	STORMWATER - Portable Conductivity and pH Meter	$0	$225
	SUBTOTAL: EQUIPMENT REPLACEMENT ADMIN, C/S, ENGR	**$12,000**	
	CONTINGENCY	**$28,000**	
445	**Equipment Replacement - Sewer Rehabilitation**		
	O&M - Stock Replacement Parts for CCTV Camera & Sonar	$1,500	
	O&M - Watertight MH Bolts & Gaskets	$1,000	
	O&M - 6" Bypass Discharge Hose for Hydraulic Pump	$12,000	
	O&M - Sonar / CCTV Camera Conversion Kit	$5,000	
	SUBTOTAL: EQUIPMENT REPLACEMENT SEWER REHAB	**$19,500**	

MURFREESBORO WATER AND SEWER / STORMWATER
CAPITAL BUDGET - 2016-17

Account	Description	TOTAL AMOUNT	STORM WATER
460	**Equipment Replacement - Sewer Plant**		
	Clarifier Drive Gear Box with Motor	$9,000	
	Clarifier Drive Wheels	$6,000	
	WWTP Storage Tank Wireless Network Update	$26,000	
	PS Odor Control Ph / Orp System	$5,000	
	Ovivo Flender Couplings	$3,000	
	Industrial Sampler	$14,500	
	Desktop Computer with Monitor	$10,500	
	Operations Desk Top Monitor	$3,000	
	Operations Thin Clients	$2,200	
	Operations Systems UPS	$8,000	
	Laptop Computer / Tablet PC	$2,000	
	Miele Professional Dishwasher	$15,000	
	Dissolved Oxygen Probe	$1,000	
	Penn Valley Pump	$15,000	
	Sand Filter Valve Actuators	$48,000	
	Main Pump Station Valve Actuators	$9,000	
	New Front Gate and Operator	$25,000	
	Main Pump Station Breaker (at WWTP)	$32,000	
	Traveling Sprinkler - Medium	$45,000	
	SC200 Controller	$2,000	
	Endress & Houser Controller	$4,000	
	Beamex Calibrator Software	$9,500	
	Control Panel UPS	$4,000	
	Spare Conveyor SEW Eurodrive - Short	$9,000	
	Spare Conveyor SEW Eurodrive - Long	$11,000	
	Quincey QT 10 Compressor	$5,500	
	Water Cannon Mechanical Assembly	$2,200	
	G&R T10 Rotatiang Assembly	$15,000	
	G&R T6 Rotating Assembly	$3,500	
	Clear Well Pump Rotating Assembly	$16,000	
	12-Ton Portable Air Cooler	$20,000	
	HVAC (4 Ground Units & 10 Roof Top Units)	$12,000	
	SUBTOTAL: EQUIPMENT REPLACEMENT SEWER PLANT	**$392,900**	
465	**Equipment Replacement, Lift Stations**		
	O&M - T-10 Pump Rotating Assemblies	$30,000	
	O&M - Small Tools, Meters, and Gauges	$4,000	
	O&M - 100' Air / Water Hose Reel	$700	
	O&M - Wisa Air Pumps / Gorman Rupp Lift Station	$3,000	
	O&M - Suction & Discharge Gauges	$1,800	
	O&M - S & L Sonic Start Sensing System (4)	$2,800	
	O&M - S & L Vacuum Pump (6)	$2,500	
	O&M - S & L Vacuum Pump Repair Kit (6)	$1,000	

MURFREESBORO WATER AND SEWER / STORMWATER
CAPITAL BUDGET - 2016-17

Account	Description	TOTAL AMOUNT	STORM WATER
	O&M - S & L Vacuum Pump Dome Set (10)	$500	
	O&M - S & L Vacuum Dome Set w/ Electrode (10)	$900	
	O&M - S & L 1 7/8 Seal Kit (6)	$1,050	
	O&M - S & L 2-Way Solenoid Valve Bracket Mount (12)	$2,550	
	O&M - Sonic Start Dome Assembly (6)	$2,400	
	O&M - S & L Flooded Suction 6/8 Check Valve (4)	$6,400	
	SUBTOTAL: EQUIPMENT REPLACEMENT LIFT STATIONS	**$59,600**	
470	**WIP Labor All Sources**	**$400,265**	
	TOTAL CAPITAL WATER AND SEWER:	**$6,634,181**	
	TOTAL CAPITAL STORMWATER:		**$30,955**